

## Realities and Possibilities offered by Social Media Tools in Science Learning and Teaching

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## Background

- 95% of college students use social networking sites; 70% of them daily (Smith et al., 2009).
- Digital natives (Prensky, 2001) or new millennium learners (Oblinger & Oblinger, 2005) learn differently...or do they? Bennett et al. (2009) found that evidence is empirically and theoretically unfounded.
- 80% of faculty use social media; 52% as teaching tools, but not in collaborative and interactive ways (Bart, 2010).
- Twitter use in post secondary classroom lead to more engaged students and faculty and higher grades (Junco et al., 2011).

## Objectives

The specific objectives of this project are to:

- study students' and teachers' use of social media for learning science across age groups and contexts.
- develop a model using **complexity thinking** for understanding science learning through social media.
- make recommendations for instructional practice in secondary and post-secondary science courses and elementary science teacher education.

## Proposed Study

Year 1 (2010-2011, VIU)

- Conduct focus groups with secondary physics students, first year physics students, upper level physics students, secondary and post secondary physics instructors
- Use focus group data to develop a survey of how students and teachers are using social media tools

Year 2 (2011-2012, SSHRC)

- Administer survey across contexts (secondary and post secondary, Canada, Australia, Sweden)

Year 3 (2012-2013, SSHRC)

- From survey results, choose case study contexts where social media is being used in interactive and collaborative ways
- Begin to develop a model for how science learning is facilitated with social media

## Some interesting observations so far...

- Focus group with upper level (3<sup>rd</sup> and 4<sup>th</sup> year) physics students (N=3).
- Students rely on facebook to stay connected. "...people feel a social responsibility to answer facebook messages...maybe because there's a face attached to it."
- When students are stuck or want to know more about something, the first step is Google. Wikipedia is heavily relied upon.

## Preliminary Data

- Students discuss physics problems on online chat, but still also meet to work together in groups.
- Very few instances of physics instructors using social media to communicate with students. But they know of other professors who do.
- Students agree they use and enjoy instructional videos but...
- "The internet – for learning - it isn't structured at all."

Thank you very much!

For more information please contact me at:

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I'm actively recruiting focus group participants. If you're interested in participating please let me know...maybe we can run a focus group during the conference if there's enough interest...