	Webinar Format		Intensive Workshop Format	
Criterion	Strengths	Limitations	Strengths	Limitations
DeWaters and Powers (2011)				
Interdisciplinary holistic approach.	Presenters came from a variety of backgrounds.	Science, social science and engineering were better represented than humanities perspectives.	An interdisciplinary and holistic approach was used to teach the concepts.	
Improved flow of information between researchers and educators.	Provided direct contact between researchers and teachers, with follow-up opportunities.	Technology made it difficult to make contact two-way.	Provided direct contact between researchers and teachers, with follow-up opportunities.	Desired more in-person presentations.
Inclusion of global perspectives and the relationship between global decisions and local impacts.	Curriculum focused on a global issue with local impacts especially the LCA presentation.		Curriculum focused on a global issue with local impacts highlighted across the curriculum.	
Curriculum that is hands on, inquiry-based, experiential and grounded in problem- solving.	Workshop was a problem-based framework grounded in inquiry and experiential methods.	Online format did not easily allow for this, though it is conceivable that it could.	Grounded in a strong essential question, very experiential and inquiry- based and situated in a problem-solving pedagogy.	
Use of relevant projects and case studies.	The NARA project served as a case study focused on the feasibility and wisdom of using woody biomass to create biojet fuel.		As with the webinar series, The NARA project served as a case study focused on the feasibility and wisdom of using woody biomass to create biojet fuel.	
Use the local community as a learning lab.	Imagine Tomorrow projects often take place in the community.			This could be addressed more effectively in helping teachers to find local resources for their study once they return to their communities.

Criterion	Webinar Format		Intensive Workshop Format	
	Strengths	Limitations	Strengths	Limitations
Fischoff (2013)				
Explicit goals that include understanding about the audience.	The webinar series overall had explicit goals, and each session had its own goals.	More effort could have gone into understanding the audience's goals. For example, teachers would have liked more information about the IT competition so they could better prepare their students for the experience.	The intensive workshop had explicit goals; each presenter understood how their presentation fit into the bigger picture. Given the intimate nature of the workshop, it was easier to understand the audience's needs and goals.	
Consider the values, attitudes and beliefs that the audience may hold and an effort to connect learning to personal meaning for participants.		Not always easy to get participants' feedback to presenters so they knew if they connected with the participants; not always possible to provide the researchers with details about the participants in advance of their presentation.	Participants answered the question "is this a good idea" based on their own evaluation of the process, and through the lenses of various values they hold.	
Activities that support the overall learning goals.	Activities were well connected to learning goals.		Activities were well connected to learning goals.	
Efforts to gather assessment and evaluation information to understand if goals were met.	Multiple forms of evaluation and assessment were used including a pre- and post- program survey, focus group, and interviews with the presenters.		Multiple forms of evaluation and assessment were used including a pre- and post- program survey, focus group, and interviews with the presenters.	

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Criterion	Strengths	Limitations	Strengths	Limitations
Buxton (2010)		•		
Recognize how "ways of thinking" associated with our dominant culture have led to some of the nation's environmental challenges.		This question was not explicitly addressed, though it is embedded in some of the curriculum presented in the workshop (e.g. Fueling Our Future)	The "triple bottom line" of economic, social and environmental sustainability was clear throughout the workshop.	
Understand ways to make decisions that better support living in harmony with ecological systems.	The Life Cycle Assessment presentation addressed this question explicitly.	The case itself has this as an embedded question, but it was not always at the forefront of discussion.	This was an emphasis throughout the workshop, though the economic and social perspectives balanced it.	
Connect these understandings to concepts mandated by the science standards that teachers need to address.	These concepts easily connected with Common Core and Next Generation Science Standards.		These concepts easily connected with Common Core and Next Generation Science Standards.	