### Page #1

#### Branching Information

- If <u>Please indicate your participation choice... = I wish to participate, and give my consent to use my responses in the study. then</u> Skip to Page 2
  - If Please indicate your participation choice... = I do not wish to participate. then Terminate survey

Dear Colleague: You are invited to participate in a Canada-wide study in engineering education research, conducted as a collaborative research effort that originated at the Canadian Engineering Education Association (CEEA) 2013 annual meeting in Montreal, Quebec to increase participation in scholarly research in engineering education. The study is being guided by a steering committee, led by Brian Frank from Queen's University. {{collector.name}} from {{collector.department}} is the local contact for {{collector.institution}} and is assisting the steering committe with this research. The aim of the study is to investigate the perceptions of engineering faculty towards teaching, and develop a picture of the attitudes and practises in engineering instruction across Canada. To that end, a survey was created by the steering committee, with the survey questions further refined through collaboration with CEEA members. Use of Results

The results from this survey will be collected, analyzed and will be published. In addition, results from this survey will be presented at an upcoming meeting of the Canadian Engineering Education Association. Participating institutions will be provided their summarized, de-indentified data along with aggregate level national data for independent analysis, which will be provided to {{collector.name}}. All of the statistical processes used for analysis will also be freely available and shared at the time of publication.

#### Confidentiality

The survey is completed anonymously and does not collect any identifying information. All data shared with institutions will be summarized, so no individual can be identified and nothing will connect you to your responses. The web survey is programmed to collect responses alone and will not collect any information that could potentially identify you (such as machine identifiers). None of the administration at {{collector.institution}} including {{collector.name}}, will know who chooses to participate in the study.

#### Survey Administration

This survey is a web-based survey that uses FluidSurveys to collect responses. {{collector.custom}} If you prefer not to submit your data through the web survey, please contact one of the researchers so you can participate using an alternative method (such as through an email or paper-based questionnaire). The alternate method may decrease anonymity but confidentiality will be maintained.

## Data Storage

All data will be stored in a secure computer file accessible only to the researchers until published, at which point the files will be erased from the computer. Only the a single member of the steering committee (Jake Kaupp) will have access to the individual level data.

#### Risks

There are no known physical, psychological, economic, or social risks associated with this study.

Ethics Approval This study has been granted clearance according to the recommended principles of Canadian ethics guidelines and Queen's University policies. Any ethical concerns about the study may be directed to either the Queen's University Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

#### {{collector.ethics}}

Withdrawing from the Study

As the survey is completed anonymously, any submitted data cannot be retrospectively removed.

We are asking you to participate by taking the survey. If you consent to participate, please select "I wish to participate" below and you will be able to complete the survey, which is 34 questions in length and should take 30 minutes to complete. Participation in this study is voluntary. You may decline to answer any questions that you do not wish to answer and you can withdraw your participation at any time by not submitting your responses.

Any questions about study participation may be directed to Jake Kaupp (kaupp@appsci.queensu.ca).

We appreciate your time in completing the survey.

## Sincerely,

Brian Frank, (Principal Investigator)
Director (Program Development), Faculty of Engineering and Applied Science
DuPont Canada Chair in Engineering Education Research and Development
Queen's University

Tel: (613) 533-6000 x75426 Email: brian.frank@queensu.ca

# Please indicate your participation choice:

I wish to participate, and give my consent to use my responses in the study.

I do not wish to participate.

Page #2

Please be aware, some questions may appear differently on a mobile device.
Demographic Questions
1. Please select the option that best describes your position as an instructor at your institution:
<ul> <li>Traditional professor (balance of scientific research &amp; teaching)</li> <li>Teaching stream professor or lecturer</li> <li>Sessional/adjunct professor or lecturer</li> <li>Other, please specify</li> </ul>
📰 2. How long have you been teaching at the post-secondary level?
<ul><li>○ 0-6 years</li><li>○ 7-15 years</li><li>○ 16-25 years</li><li>○ &gt; 25 years</li></ul>
📰 3. What percentage of your courses are undergraduate versus graduate courses?
<ul><li>○ 0-20%</li><li>○ 21-40%</li><li>○ 41-60%</li><li>○ 61-80%</li><li>○ 81-100%</li></ul>
📰 4. What percentage of your work time is spent on teaching, averaged over the year?
Note that time on "teaching" would include all related activities including developing course materials, preparation, development, instruction, grading, etc.  0-20%  21-40%  41-60%  61-80%  81-100%

## Page #3

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- If not 6. Which of the following... | Other is one of [First priority, Second priority, Third priority, Fourth priority, Fifth priority] then Hide Please elaborate on your "other" teaching goal:
- If not 7. What influences your d... | Other is one of [First priority, Second priority, Third priority, Fourth priority] then Hide Please elaborate on your "other" influence to make...

這 5. To what degree do you enjoy teachin	g?				
<ul><li>○ To a great extent</li><li>○ To a fairly great extent</li><li>○ To a moderate extent</li><li>○ To a small extent</li><li>○ Not at all</li><li>○ N/A</li></ul>					
6. Which of the following teaching goals			-	ty.	
(Drag the light grey teaching goal to the app	propriate dark gre	-	ction)		
	First priority	Second priority	Third priori	ty Fourth priority	/ Fifth priority
Transmission of engineering knowledge	0	0	0	0	0
Apprenticeship: socializing students into the practice of engineering	0	0	0	0	0
Learner-centered development of understanding: facilitating construction of meaning	0	0	0	0	0
Nurturing students to reach their personal potential	0	0	0	0	0
Social change through education of the next generation of engineers	0	0	0	0	0
Other	0		0	0	0
Please elaborate on your "other" teaching a Please elaborate on your "other" teaching a Please elaborate on your decision to make the sprophysical properties of the sprophysical properti	se changes in you	_	-	of priority.	
(Drag the light grey limiterioes to the approp	First pri	_	econd priority	Third priority	Fourth priority
Personal observation on how a course wen last time I taught it	•			0	0
Input from my colleagues	0			0	0
Input from student course evaluations	0		)	0	0
Information from articles, websites, or other literature		C	)	0	0
Professional development activities I partici in: seminars, workshops, etc	pated	C		0	0
Other	0	C		0	0

Please elaborate on your "other" influence to make changes in your teaching:
8. When I am dissatisfied with student learning in my course(s), I believe the most common problems are (please select up to 3 choices):
Underprepared students
Under motivated students
Students have inadequate learning skills: require spoon-feeding
Student workload (academic load, or part time jobs) prevents them from spending sufficient time on my course material
Poor curriculum design
Excessive course content dictated by the curriculum  Excessive course content I try to fit into my course
Inadequate resources: such as teaching facilities, instructional technology, and TA hours
Inability to assess learning or provide high quality feedback to my students due to situational factors.
Inadequate teaching
Poor student engagement
Poor quality of course administration
Poor quality of classroom management
9. If you have any questions of comments regarding this section, or any of the questions please elaborate below:

10. What is the responsibility of the instructor in the teach important)	ing and learning process	? (Rank the 3 choices from	om most to least
(Drag the light grey responsibilities to the appropriate dark gr	ey ranking selection)		
	Most important	Second most important	Least important
The instructor is responsible to know and follow best teaching practices in order to convey to students the important concepts and complex understandings of the content.	0	0	0
The instructor is responsible to know the content well and be able to clearly articulate it.	0	0	0
The instructor is responsible to motivate students to learn, provide them with a clear explanation of what it is they are expected learn, and provide learning opportunities in which they can deeply engage.	0	0	0
11. What is the responsibility of the student in the teachin important)	g and learning process?	(Rank the 3 choices from	n most to least
(Drag the light grey responsibilities to the appropriate dark gr	ey ranking selection)		
	Most important	Second most important	Least important
If the student has the ability to do the work, he or she doesn't really need to take on any added responsibility.	0	0	0
The student is responsible to ensure that he or she has the appropriate background knowledge and to develop his or her own motivation to learn about the subject and do well.	0	0	0
The student is responsible to attend classes, listen carefully and be attentive, take good notes, do the readings and the assignments, and study.	0	0	0
12. How can instructors most positively influence student	success? (Rank the 3 ch	noices from most to least	significant)
(Drag the light grey influences to the appropriate dark grey ra	anking selection)		
	Most significant	Second most significant	Least significant
Use teaching and assessment methods that support clearly stated learning outcomes.	0	0	0
Speak effectively, provide structured and engaging learning opportunities, and manage the classroom effectively.	0	0	0
Know the subject very well and explain it very clearly.	0	0	0
13. What are the important characteristics of an effective	instructor?		

14. I think of myself as a knowledge expert (e.g. accomplished researcher or practitioner) in my area of specialization.
C Strongly agree
Mildly agree
Neutral Mildly disagree
Strongly disagree
I do not have an area of specialization
15. I think of myself as an expert in teaching my area of specialization.
Strongly agree
Mildly agree
Neutral C Mildred Research
Mildly disagree  Strongly disagree
_
16. What is the most important thing you believe you do with student evaluations of your teaching and your course? (Note: this question is asking for what you actually do, not what you feel you should do.)
I look for clues as to how well students understood the intended learning outcomes, and if the students agreed that the learning assessments aligned with these outcomes.
I look for ideas on what approaches might improve my delivery of the material.
I look to see if students have found lectures or learning activities to be unclear or confusing.
I look at the quantitative results (i.e. numerical ratings) to see if students felt the course and my teaching were effective.
<ul> <li>The student evaluations at my institution do not provide meaningful results I can use in my teaching practice.</li> <li>I usually do not review student evaluations.</li> </ul>
47 17. If you have any questions of comments regarding this section, or any of the questions please elaborate below:

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In the questions below, teaching and learning ideas about how people learn, tea		-			ance teaching ability,
18. I believe that engaging in the following	ing types of pro	fessional devel	opment is part of the	role of an engine	ering educator.
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Teaching skills development (presentation skills, facilitation, using educational hardware/software, etc.)	0	0	0	0	0
Teaching or assessment methods (teaching design, project-based learning, design active learning, using learning outcomes, etc.)	0	0	0	0	0
Teaching processes (curriculum development, assessment, program improvement, etc.)	0	0	0	O	0
Scholarship (innovating and seeking feedback on teaching approaches, educational research methods, etc.)	0	0	0	0	0
19. Please identify the types of teaching	g support servic	es you are awa	re of at your instituti	on, and which you	ı participate in?
			Am aware of	Partic	ipate in
Teaching skills development (presentation educational hardware/software, etc.)	skills, facilitatio	n, using	0	0	
Teaching or assessment methods (teaching learning, design active learning, using learn			0	0	
Teaching processes (curriculum developme improvement, etc.)	ent, assessmen	t, program	0	0	
Scholarship (innovating and seeking feedback educational research methods, etc.)	ack on teaching	g approaches,	0	0	
20. Which of the following other teachin	g and learning	professional de	velopment activities	have you used in	the last 5 years.
Attended a seminar on teaching (1-2 ho Participated in a workshop on teaching ( Participated in a multi-day workshop on Participated in conference related to edu Learning independently through reading Led workshops focusing on teaching an Internal university funding to support cou External funding to support course or pro Internal university grants supporting edu External grants supporting educational re	(3 hours to a full teaching (sever ucation (either of the control	Il day of profess ral day professi disciplinary or n elopment n development ment	ional development) onal development ac	ctivity)	

21. Please indicate obstacles to participating professional development opportunities. Please rank only the obstacles that apply to you, in order of significance.

(Drag the light grey obstacle to the appropriate dark grey ranking selection)

	significa nt	0	0		F	•	-	0	significa nt
Their of sout	obstacle	2	3	4	5	6	7	8	obstacle
Timing of event	0	0	0	0	0	0	0	0	0
Availability of event	0	0	0	0	0	0	0	0	0
Location of event	0	0	0	0	0	0	0	0	0
Awareness of event	0	0	0	0	0	0	0	0	0
Relevance of event	0	0	0	0	0	0	0	0	0
Workload	0	0	0	0	0	0	0	0	0
Lack of funding opportunities	0	0	0	0	0	0	0	0	0
Lack of access to expertise	0	0	0	0	0	0	0	0	0
General vs. discipline specific nature of the event	0	0	0	0	0	0	0	0	0
percentage of those activities  0-20%  21-40%  41-60%  61-80%  81-100%  23. I think that more profes  a) Training for new facult	essional dev								
		Strong Disagre	-	Disagree		Neutral	Agree	Str	ongly Agree
Teaching skills development (presentation skills, facilitation educational hardware/software)	n, using	0		0		0	0	0	
Teaching or assessment me (teaching design, project-bas design active learning, using outcomes, etc.)	sed learning,	0		0		0	0	0	
Teaching processes (curricu development, assessment, p improvement, etc.)		0		0		0	0	0	
Scholarship (innovating and feedback on teaching approach educational research method	aches,	0		0		0	0	0	
b) Continuing education t	for experienc	ced faculty							
· •	•	Strongl Disagre		Disagree		Neutral	Agree	Str	ongly Agree

Least

Most

Teaching skills development (presentation skills, facilitation, using educational hardware/software, etc.)	0	0	0	0	0
Teaching or assessment methods (teaching design, project-based learning, design active learning, using learning outcomes, etc.)	0	0	0	O	0
Teaching processes (curriculum development, assessment, program improvement, etc.)	0	0	0	0	0
Scholarship (innovating and seeking feedback on teaching approaches, educational research methods, etc.)	0	C	0	0	0
24. Does your institution take profession Yes No Unsure	onal developm	nent activities into	account during an	nual performance	evaluations?
25. If you have any questions of comm	nents regardin	g this section, or a	nny of the question	ns please elaborat	e below: