

Making an Impact in Five Minutes or Less: Analyzing Effective Technical Presentations

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Introduction

Despite the plethora of research on effective public speaking, the specifics of short technical presentations tend to be glossed over. My study investigated what constitutes a successful 3 to 5 minute presentation, and includes a gender analysis evaluation of the speaking habits associated with women.

Budinski (2005) asserts that “an oral technical presentation ‘sells’ your technical work”, and advocates the necessity of having a clear goal and strong audience accommodation. The presentations I examined all had the common goal of sharing the

presenter’s research; my rubric focuses primarily on delivery methods that connect the presenter and the audience. Furthermore, technical presentations must navigate complex concepts and terminology in an accessible way. My method of analysis took this into consideration.

Finally, according to Tannen (1990), women often use tag questions, and tend to be judged more harshly for it. I observed both the online videos and live presentations closely for these and other habits generally associated with female communication to see if women in fact used them more frequently than men.

Analysis Rubric

	Content	Delivery
Verbal	<p>Organization (flow): problem – “my research” – solution</p> <p>Specific, pointed, direct.</p> <p>All pieces are very relevant to the topic and carry through the whole presentation.</p> <p>Brief definitions used.</p> <p>Audience focus – why does it matter in the “real world” addressed.</p> <p>Humour.</p>	<p>Genuine and natural (not memorized) tone and tempo.</p> <p>Intonation, to avoid monotone and also reveal passion in research.</p> <p>Effective pausing/emphasis.</p> <p>No fillers or tag questions.</p>
Non-verbal	<p>Visual</p> <p>Simple, non-technical</p> <p>Demonstrates thread of presentation</p> <p>Complementary, not necessary to presentation</p>	<p>Sincere expressions, expressions to reveal passion in research.</p> <p>Deliberate movement/body positioning and use of stage space.</p> <p>Mixture of small and large gestures, gestures are precise (not distracting).</p> <p>Effective scanning of audience (looking at individuals through the whole audience).</p>

Methodology

- Affirmed my analysis of online video of Vitae Three Minute Thesis 2015 finalists (UK) with a small group.
- Analyzed 2015 Ontario Three Minute Thesis competition (CA) online videos with a qualitative analysis, with and without vocals.
- Formed a gender-neutral rubric to compare male and female presenters with an equal perspective.

- Applied this rubric at the Canadian Celebration of Women in Computing Grad Forum (5mn talks) and the University of Ottawa Health Sciences Symposium’s 5mn Elevator Pitch competitions.

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Sources:

Tannen, Deborah (1990). *You Just Don’t Understand*. New York, NY: Morrow.
 Budinski, Kenneth G. (2005). *Preparing and Delivering Technical Presentations*. West Conshohocken, PA: ASTM International.
 Rothwell, Edward J. & Cloud, Michael J. (2015). *Engineering speaking by design: delivering technical presentations with real impact*. Ottawa, CA: CRC Press.

Results

 = excelled over other group.

Content (Verbal)	Predominantly women in computer science graduate studies	Predominately males in health science undergraduate studies
Organization (flow: problem – my research – solution).	Often somewhat disorganized. Sometimes very effective.	Often well organized.
Specific, pointed, direct.	Consistently specific. Often pointed and direct.	Consistently specific. Usually direct.
All pieces are relevant to the topic and carry through the whole presentation.	Often relevant. Sometimes points carry through the whole presentation.	Often relevant. Often points carry through the whole presentation.
Brief definitions used.	Sometimes used brief definitions. Broke down technical language well. Sometimes spent too much time explaining.	Sometimes used brief definitions. Broke down technical language well. Sometimes overused technical lingo.
Audience focus – why does it matter in the “real world” addressed.	Real world connection often addressed.	Real world connection often addressed.
Humour.	Sometimes used; where applicable used very well.	Occasionally used; where applicable used very well.
Delivery (Verbal)		
Genuine and natural (not memorized) tone and tempo.	Often nervousness is revealed through tempo.	Often delivery is genuine and natural.
Intonation, to avoid monotone and also reveal passion in research.	Consistently and effectively used intonation. Passion often revealed.	Consistently and effectively used intonation. Passion sometimes revealed.
Effective pausing/emphasis.	Occasionally paused.	Often paused with effective emphasis.
No fillers or tag questions.	Sometimes used fillers. Occasionally used tag questions.	Occasionally used fillers and tag questions.
Delivery (Non-verbal)		
Sincere facial expressions, expressions to reveal passion in research.	Occasionally used sincere facial expressions. Often appeared nervous or did not change expressions.	Sometimes used sincere facial expressions. Often changed expression throughout the presentation.
Deliberate movement/body positioning and use of stage space.	Good movement.	No movement.
Mixture of small and large gestures, gestures are precise (not distracting).	Often used effective gestures.	Sometimes uses effective gestures. Often gestures reveal nervousness.

Conclusion

General

- There is minimal difference between male and female presenters.
- Video analysis: no obvious difference between male and female presenters.
- Live analysis: differences are not drastic.
- Interestingly, the clearest difference is how nervousness manifested: for the men through gestures, and for the women in tone and tempo.

Time Difference

- The time difference in three and five minute presentations is significant, my rubric would have been more effective if tested on a five minute presentation before being applied live.

- As presentation length increases, so does the quantity of slips that get classified as feminine.
- Organization in both presentation lengths remains the same.
- Five minute presentations offer more opportunity for explanation and digression where appropriate.

Other Factors

- Differing age groups: the women were graduate students, the men were almost all undergraduates.
- Differences could be due to either gender or age.
- Example: the women have lengthier explanations and more digressions than the men. This may have been due to the complexity and intricacy of their research in comparison with the health sciences presentations.