

## Working Group #7

### Eipiphiny - Inculcating an Emotional Response to Mathematics

We came to Vancouver with few expectations but we left feeling tremendously positive about the depth and usefulness of the discussions in our working group sessions. Burke Brown and I would like to thank all those who enthusiastically contributed to our discussions. The main source of our inspiration came from the young people who attended and took an active role in the sessions. In particular, Scott Whitty, a high school student from Bracebridge, Ontario, said,

“I do not believe education [has] its meaning in its content, or even necessarily [in] the skills one must develop. Our educational system is designed to “bring kids up to speed” on *humanity*.”

The following is a partial list of participants (with apologies to those who I missed):

Burke	Brown	Eipiphiny Society
Burke was accompanied by his daughter (Susie) and two grandchildren (Ben and Tlell) during the first session.		
Stewart	Craven	Ontario Science Centre
Veselin	Jungic	Simon Fraser University
Veselin was accompanied by three high school students during the first session.		
Scott	Whitty	High School Student - Bracebridge- Ontario
Wesley	Snider	Douglas College
Lorraine	Baron	SD23 Kelowna School District / University of Calgary
Pam	Hagen	Simon Fraser University

To generate discussion we planned to use the following questions and prompts:

#### Session #1 -

- How did we become engaged in doing, learning, and appreciating the beauty of mathematics?
- Why should all citizens be “emotionally attached” to mathematics?

#### Session #2

- Why do we need to think “outside of the box” to shift the nature of emotional responses to mathematics?
- Is “branding” mathematics an idea whose time has come?
- What role might a “talisman” have to evoke positive feelings towards mathematics?

#### Session #3 and 4

- What should be done?

- a) Collect stories of “eipiphinies” from teachers, students, and mathematicians (website/wiki)
- b) Conference – Put people in touch with each other to share their stories
- c) Games
- d) CMESG...

### **Eipiphiny Society - Brainstormed Ideas**

#### *Belief Statements*

- Positive emotional response among young children should be a focus
- Formal mathematics for the very young lead to phobias
- “Making math” can foster positive emotional responses
- Mathematics needs to be seen as a human endeavour in order to help students “see” themselves in the mathematics
- It is important for people to understand the “Iron Law of Inequality” to be well informed citizens
- We need to break down silos and take a more holistic approach. We need to draw in psychologists, sociologists, statisticians, math educators, and mathematicians into the conversation
- One participant said, “It is not what the mathematics is for. We want people to love mathematics – full stop.”

#### *Actions*

- Collect stories from those who love mathematics that will inspire, entertain, and evoke emotion about mathematics among the general public and particularly among children
- Create kits for expectant mothers that will help them excite their children about mathematics
- Collect individual stories of “aha’s” to provide ideas for strategies for teaching
- Put people (with interest in mathematics) in touch with each other to share their stories
- Initiate a conference focused on the importance of a positive emotional response to mathematics
- Provide ideas and materials that will help improve the ambience of the mathematics classroom so that it is conducive to positive emotional responses
- Create a good “luck” symbol (a talisman) as a universal symbol that evokes a positive emotional response to mathematics
- Create games for children to help them understand the difference between “causal and “acausal” models and to understand “structural inequalities”
- Spread the word by creating documentaries, writing journal articles, conducting math teacher pub gatherings, and developing games

### *Questions that Require Further Consideration*

- Is a symbol/talisman necessary to engender a positive response to mathematics among young people?
- How does one elicit a positive response to mathematics in a practical way in the classroom?
- Does spreading the message about a positive response to mathematics supplant the need for a symbol?
- How do we “publish” the stories?
- Does “structuralism” present a challenge to changing attitudes towards mathematics?

This workshop allowed us to receive feedback about the goals and our project work not only from other educators whose perspective is very different from our own but also provided an opportunity for all of us to listen the voices of the six young people who took part in our conversations. It is after all young people that we seek to influence. It is our hope that in some way we can engender a far more positive response to mathematics among all children. The work of the “Eipiphiny” society – [www.eipiphiny.org](http://www.eipiphiny.org) - will continue well beyond the end of this conference. On behalf of all of those who worked with us, we would like to wholeheartedly thank the organizers of the Canadian Mathematics Education Forum for providing us with the opportunity to continue our work.

Respectfully submitted,

Stewart Craven  
Working Group #7 Spokesperson

#### Addendum

The following is a slightly edited version of a reflection forwarded to me after the forum:

“When I reflect on our group conversations, I still believe that the focus of the eipiphiny work is too specific - or perhaps too narrow. However, I'm sure you noticed how many teachers and mathematicians wanted the 'cool pin'? Everyone in that group has a 'story' ...but my argument remains that the story exists usually because of a mentor or a teacher. The golden “aha” moments occur when ideas are shared, or questions are shared. The 'humanistic' side of your work must include the people who are working towards the same ends as you are - they are all around you - there is much work already being done – but there are infinitely more to do.”

Lorraine Baron