

# ANALYSIS OF IWITTS TRAINING HOPKINSVILLE COMMUNITY COLLEGE SPRING OF 2015

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The IWITTS training was conducted during the spring semester of 2015 at Hopkinsville Community College. A pre-survey and post survey of perceptions was conducted. The initial analysis will be of the post-survey results and then a comparison of the two surveys to see if any perceptions have had a notable change. The number of people answering each question varies with one participant giving comments but no answers to the yes/no/unsure questions, no yes/no/unsure assumptions were derived from the written response of this participant based on the comments made.

## **1. What do you believe is the biggest factors in retaining female students in STEM classes? List up to five factors in rank order with the first being the most important.**

*Due to the nature of the question, ranking the response was impossible and thus they were grouped into categories. The evaluator selected which category each response fell into and what the categories were. The unedited response can be read in the results document.*

*The categories selected were: relevant activities, role models, recruitment, support, goals, jobs, and education/college.*

***Relevant Activities** were component classified in other areas, those responding wanted to make sure that activities were responsive to the female learner.*

***Role Models** received a large number of responses, with four responses simply stating role models. It was very clear that female students need role models, faculty members, members of the community, mentors and those working in the industry.*

***Recruitment** centered on the concept of making sure that direct recruitment is done of females. This should include females shown in the recruitment materials and the recruitment of females at a younger age. This included trying to change the public perceptions as well as working with female centered organizations.*

***Support** was noted from two different perspectives, first was institutional support (some comments are also in the educational classification) and the other was from family support. It is very important to make sure that students have the opportunity to learn and female students have some unique challenges that may not be faced by their male counterparts.*

***Goals** was noted by two responders and it was that students should have goals. The inference could be related directly to female students or all students.*

***Jobs** was noted by only one person, but should be the purpose for most all technical students. It is unclear if there is a disconnection on this topic with the faculty or just an understanding of what they are doing, i.e. preparing students for the workforce.*

*Education/College is an area in which the faculty and administration has direct control within the constraints of funding. This area received the maximum number of responses. Some key concepts included: spatial skills (noted as being lacking), cohorts, team work, study partners, bridge skills, engagement, inclusive environment and instructors. Another concept noted by more than one responder was classroom accommodations, while little detail was noted in conjunction with this it can be inferred that the current classrooms need modification and are not accommodating female students (all students?). Another concept was that the college environment needs to be inviting to the female learner.*

2. Do you believe female students are equally prepared to take STEM courses when they enroll? Please explain your response and circle.

Yes, (4) 30.8% No, (4) 30.8% Unsure, (5) 38.4%

*From the responses to this question the faculty members are really unsure how well prepared the female student is in STEM. There is an even split between yes and no, but the majority are unsure. Therefore, the evaluator believes that some type of survey needs to be done of both male and female students to see if there is a perceived difference in their preparation. It maybe that female students are not prepared, but it could also be that all students are not prepared or that all students are prepared.*

*From the comments, it is believed by those thinking that students are not prepared, but believe that they have capabilities to do STEM. There were lots of different factors noted, such as previous instructors, experience, exposure, and social norms.*

3. Do you believe it is more difficult to recruit female students in STEM subjects? Please explain and circle your response.

Yes, (9) 75% No, (2) 16.7% Unsure, (1) 8.3%

*The majority of those responding believe it is more difficult to recruit females into STEM. Some of the comments included there is a perception that it is a male only field. That the field is not open to them. Strong male dominated figures can cause females to avoid the field. Also noted the subjects are difficult to learn.*

4. Do you believe there are any demographical (such as location of residence, ethnical or racial, income, and transportation) factors that influence the recruitment and retention of female students? Please explain and circle your response.

Yes, (10) 83.3% No, (0) 0% Unsure, (2) 16.7%

*This question had the largest percentage of responses in agreement. The agreement was that demographics is a factor in recruitment and retention. Therefore, it is recommended that a baseline demographical analysis be conducted of the Hopkinsville community of STEM students prior to the project inception (fall of 2014). Factors noted was childcare and transportation as some of the biggest factor, recruitment and retention were also discussed in the comments, but some of these items were related to all students and not gender specific.*

5. Do you believe the IWITTS training has assisted you in developing a clearer methodology for retaining and recruiting female students in your classes? Please list up to five facts that you have learned and will implement, to assist you in retention and/or recruitment of female students, list the most important first.

*As noted in the first question the ordering of the responses is not with the most important first and no grouping have been attempted on these concepts. There were a few negative comments about the quality of the training stated. There were 48 different comments expressed, with many of them having common themes. Some of these include: classroom accommodations, female role models, 'hand holding', female-oriented examples, collaboration, hands-on activities, and Women in Technology Leadership Team.*

6. Do you believe the IWITTS training was valuable to you? Please explain your response and circle. Yes, (10) 76.9% No, (1) 7.7% Unsure, (2) 15.4%

*The majority thought the training was good, but it was also noted as being dated. The comments were varied but many of them were in the concept of it made me think about the subject. So if the training started a dialogue among faculty then it was worth the effort. The direct influences were varied.*

7. Did you complete the entire IWITTS training? Please circle. Yes, (7) 53.8 % No, (6) 46.2%

*Somewhat of a concern that just over half of the people completed the course, but as noted in the comments for question 6, but if this made people think it was worth the effort. If this type of training is conducted again, the time period used needs to be reviewed as well as if this is the best model because of some of the negative comments received about the IWITTS training.*

## Comparison between the pre and post surveys

The first question in the pre survey was about the biggest factors in retaining of female students in STEM classes. Little of the conceptual factors have changed between the two surveys, the factors are still; societal pressures, role models, perception of STEM field, child care, marriage, male field, recruitment, etc.

The second question dealt with the preparation of the female learner on both the pre and post surveys (they were the exact same questions). In the pre-survey two-thirds of those responding felt they were equally prepared with the remainder unsure. On the post-survey we see a shift in perception that only about 30% believe they are equally prepared, 30% believing they are not equally prepare and the largest category was the unsure area, but the three area of responses are almost equal. Therefore, during the training the perceptions has drastically changed, while there still is a sizable unsure area.

The third question was about recruitment and the question was the same on both surveys. The response to this questions have not changed during the period of the training with most believing it is harder to recruit female learners.

The fourth question dealt with demographics and the questions were the same on both surveys. The response to this question is basically the same from a numerical standpoint, but the comments to the questions are different, in the post survey more of the responses are centered toward the female learner, while those on the pre survey are more generalized.

The fifth question on the surveys were written in a parallel fashion; the pre-survey dealt with what they hoped to get from the training and the post-survey dealt with what they did get out of the training. When comparing the responses between the pre and post surveys there are similarities but there are also differences, which has both positive and negatives implications. From the positive the faculty taking part in the workshop have had their vision expanded by what was learned in the workshop. The negative component of this is that there were expectations that were not most likely met in the training. Therefore, it is suggested that the leadership team examine carefully those areas that were not met in the training and determine if they are items that need to be covered in an additional professional development event(s) or if it was just the way comments were made. It seems that faculty may have wanted more concrete information going into the training this may not have been obtained in the training, according to their responses.

Overall, the training met the purpose which was to engage faculty on the topic of female roles in the STEM workforce. There are issues in either the perceptions or the preparation of female students who wish to enter the STEM workforce and these need to be addressed. Another factor that needs to be considered, since nearly half of the participants did not finish the training if follow-up is needed for the faculty. The evaluator believes that the training did make the faculty think and some change in perceptions were achieved.

*Analysis completed by:*

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