

AC 2007-2242: K-STATE'S WOMEN MENTORING WOMEN (WMW): IMPACTS OF SHIFTING FROM INDIVIDUAL TO GROUP MENTORING

Kimberly Douglas, Kansas State University

Kansas State University's Women Mentoring Women (WMW): Impacts of Shifting from Individual to Group Mentoring

Abstract

Women Mentoring Women (WMW) at Kansas State University (K-State) began in 1999 with seed money from the Society of Women Engineers, and has expanded to support all 17 engineering and science programs affiliated with the Women in Engineering and Science Program. The program focuses on supporting freshmen women in engineering and science as they begin their university experience in demanding curricula. Freshmen women are matched with upper-class women who are in the same major. The mentors offer advice, answer questions, and provide support throughout the academic year. WMW structures monthly opportunities for all participants to network. Activities range from a ceramic event to attending a theatrical performance to a semi-formal dinner with the deans and administrators on campus.

Historically, this program was an individual (one-on-one) mentoring program. After attending a panel discussion on mentoring programs at the 2004 WEPAN conference, the program transitioned to a group mentoring structure in the fall of 2004, and the structural changes were modeled after the mentoring program at Penn State (Ruel, Bogue, Reyes, & Hart, 2004). The program has tripled in size since 2002 and currently has over 160 women participating. The average participating rate of members for monthly events roughly doubled after the transition to a group mentoring structure. Finally, the retention rate of freshmen participating in the program after their third semester is just over 80%, well above retention rates for the college. This paper will detail the changes that were made to the organizational structure of WMW, will report impact these changes had on participation levels, and will describe best practices and lessons learned.

WMW's Organizational Structure

Women Mentoring Women at Kansas State University was originally designed to be a one-on-one mentoring program linking freshmen students with an upper division student preferably but not always in their major. The organization provided a mechanism for building community and providing support for incoming freshmen. However, over the course of the academic year, participation levels at events decreased as the year progressed. After an individual missed an event, they were less likely to attend later events.

Whether a mentoring relationship works or not in essence boils down to the ability for two individuals to "click". If that bond or connection is made, the mentoring relationship works, and if the connection is not made, a relationship may exist but true mentoring does not exist. In a one-on-one mentoring structure, the mentee only has the opportunity to connect with the mentor. This issue was a primary reason for transitioning to a group mentoring structure. (Ruel, et al., 2004) With a group structure, 2-3 mentors are matched with 3-5 mentees all from the same department. This provides each mentee with the opportunity to "click" with more than one mentor, increasing the opportunity for a

successful mentoring relationship. In addition, as the freshmen in the group interact they build relationships with a cohort of students who will go through the program together, building a peer to peer network. WMW transitioned to a group mentoring structure in the fall of 2004.

As mentioned previously, in the one-on-one mentoring structure, after a mentor or mentee missed an event, they were unlikely to re-engage with the program to attend future events. This was observed by reviewing attendance records prior to the change in structure. When WMW shifted to a group structure, there were initially very vocal complaints from mentors that they weren't able to get their groups together – that they could never find a good time for everyone to meet. However, it was observed over time that participants attended events when their schedule permits creating groups which are more fluid – meaning at any given monthly event the group members who attend changes. Under this new structure, missing an event does not imply to the other members of your group that you will not attend future events.

Prior to fall 2004, WMW had a single project manager who was an engineering student. This individual was selected in the spring of each year to serve during the following academic year. This leadership structure required that a new project manager be trained each year and occasionally the learning curve was fairly steep. During the 2004-2005 academic year, WMW transitioned to a leadership structure that provided more continuity. Specifically, each year WMW has two project managers, one senior project manager and one junior project manager. Essentially, applicants for the project manager's position agree to a two year term. Project managers are selected so that one is an engineer and one is a scientist. The project managers create the mentoring groups, plan and schedule events, handle communication participants, monitor group functioning, and host WMW events. The project managers receive logistical support from staff in the Women in Engineering and Science Program including managing the application process, creating and distributing invitations for events, handling event RSVP processes, handling room reservations and managing caterers.

Utilization of Resources

- After initial funding from the Society of Women Engineers, WMW was fortunate to be funded by a corporate sponsor, Cargill, which has contributed approximately \$15,000 annually over the past six years. These resources fund monthly events, t-shirts for participants, scholarships for WMW project managers, and a small stipend for each member to support small group activities. Monthly events average \$1000 in cost covering room or facility fees to use space, food, speaker honorarium or entertainment expenses, and/or supply costs.

Each Women Mentoring Women participant receives a t-shirt with a variation of the WMW logo on it. The initial mentor and mentee applications ask for each person's t-shirt size. Thus, orders can be placed immediately and shirts are passed out at the kick-off event at the beginning of fall term.

The two project managers each receive a \$1000 scholarship for their service to Women Mentoring Women. Half of this amount is distributed each semester. The project managers are responsible for forming groups, handling one on one communication with participants, hosting events, and providing follow-up to determine if groups are functioning effectively.

Each mentoring group also has access to \$20 per person to fund small group activities each semester. Groups will use this for activities such as going to the movies, going out to dinner, taking a study break to get ice cream, bowling, or meeting for coffee. While this funding may seem insignificant, it provides the means for students to do things together as a group.

Program Activities

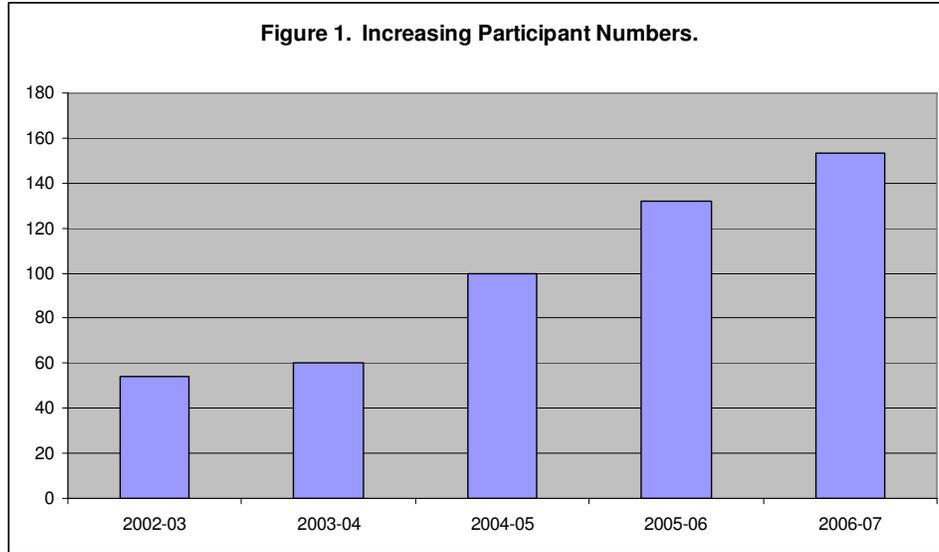
Women Mentoring Women hosts monthly large group events. Historically, events were primarily opportunities for social interaction. Over the past two years, the program attempted to link the social activities to engineering, science, or professional development. Examples of monthly events include:

- A kick-off event held at the local zoo where mentoring groups are introduced and where participants get a behind the scenes tour of the zoo focusing on how animal habitats are engineered;
- A “Chocolate Fest” where numerous types of chocolate are served complete with a chocolate fountain and the guest speaker is from a dairy that produces ice cream and describes the engineering and science of chocolate production;
- A “Dinner with the Deans” where small groups of students have the opportunity to dine with a Dean, Associate Dean, Vice Provost, or other key administrators across campus at a local restaurant highlighted in Wine Spectator. This event allows participants to interact in this manner and in this type of setting before doing so for a job interview. Many of the WMW students are first generation to college and have not had the opportunity to previously experience this type of situation.
- A Ceramics Event held just prior to the holidays where the participants select between several options for what to make. Many use their work of art as a gift. This event is often held on the weekend of an “away” football game and the event is scheduled for game time so that they can watch or listen to the game as a part of the event.
- A logo design event that was held at a local restaurant that uses butcher paper for table cloths. The participants sketch their logo designs and the images were scanned and posted on the website. The online survey system was used to allow the participants to vote for the preferred design and the winning artist won a \$100 gift certificate to a very nice local restaurant.

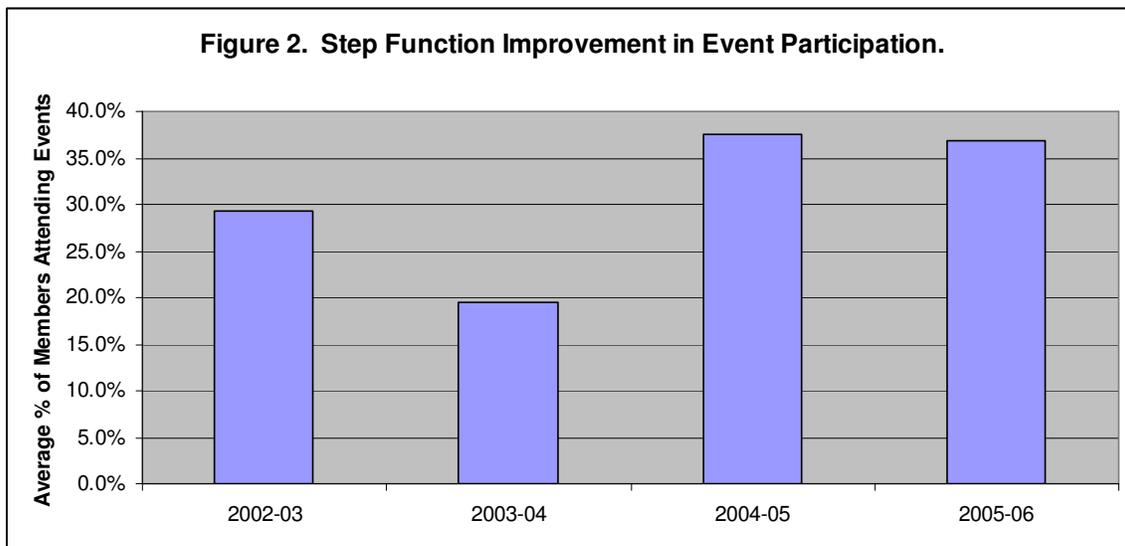
Metrics for WMW’s Impact

Women Mentoring Women was designed to build community and to provide support for freshmen science and engineering students. The objective of the program was and is to

increase retention rates and results show that it is successful. Figure 1 illustrates how the Women Mentoring Women program has grown over the past five years. These numbers reflect the number of participants at the beginning of fall term and do not include individuals who join the program at the beginning of spring semester.



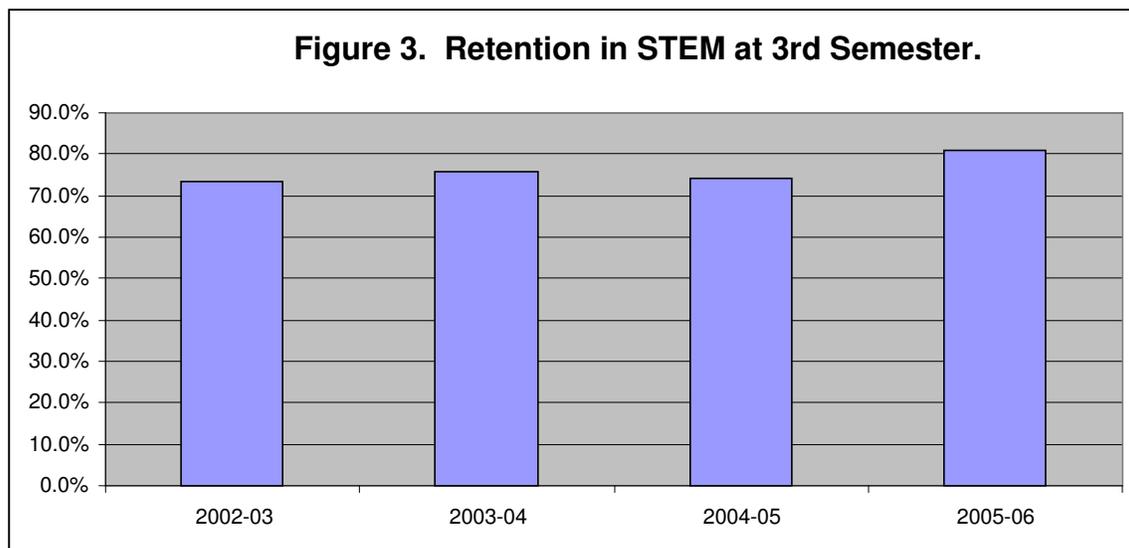
It is also interesting to note that even as the number of people in the program has grown steadily the average percentage of participants attending individual events also exhibited a step-function increase after the shift from one-on-one mentoring to group mentoring. Figure 2 illustrates this pattern, and when you look at individual attendance records, you see the impact of the fluidity of the groups. Again, missing an event does not imply that you will not attend a future event as it did before the shift to group mentoring.



The bottom line objective of Women Mentoring Women is retention rates. The Women's Experiences in College Engineering (WECE) project, funded by the National Science Foundation and the Alfred P. Sloan Foundation and completed by the Goodman Research Group, Inc. (GRG) described students' explanations about when and why they considered leaving or when and why they left engineering in the following manner:

- “About two-fifths of student participants in all years of college reported that they had considered leaving engineering at some point during college. Sophomore year was most frequently mentioned as a year when they considered leaving engineering: about one-third of all sophomore and more advanced student respondents reported they had seriously considered leaving engineering during sophomore year.
- Freshman and particularly sophomore year were, in fact, the years women were most likely to actually leave engineering.” (GRG, 2002, p. v)

WMW is tracking participants to see if they are retained in an engineering or science discipline, and to see if they have graduated with an engineering or science degree. Accurate records were not available prior to the 2002-2003 academic year. Thus, retention analysis begins with the 2002-2003 academic year, and focuses on retention after the third semester in college which is the middle of sophomore year. Figure 3 illustrates the number of mentees retained at the end of their third semester in college. As illustrated, retention rates of mentees is high and retention rates were maintained after the structural changes, even given the significant program growth that simultaneously occurred.



Best Practices and Lessons Learned

Women Mentoring Women has been very successful in impacting retention even while experiencing significant program growth. This section provides a number of best practices and lessons learned under the new mentoring structure.

- Women Mentoring Women utilizes the university's online survey system to process both mentor and mentee applications. Prior to utilizing this system, staff members had to manually enter participant information into a database for tracking.
- During the 2005-2006 academic year, WMW began to allow students to join the program at the beginning of spring semester. The reality is that many freshmen have no idea what to expect as they start college and may not realize the potential benefits of WMW at the beginning of fall term. Allowing them to join the program at the beginning of spring semester gives them the opportunity to access services once they realize they really need services. Typically, 10-15 mentees join the program between semesters.
- In prior years, WMW would commonly have people just disappear and never let their mentor/mentee/group know they were leaving the program. In 2005-2006, WMW instituted a respectful "opt-out" process. An online survey is used to confirm that whether individuals plan to continue with the program or not. This information is used to restructure groups, and also handles issues with mentees changing majors mid-year.
- Because of supply and demand issues, WMW frequently has a surplus of mentors in some majors. Historically, these individuals were told that they were not needed as mentors and were encouraged to participate in future years. This year WMW began to utilize these "extra" mentors to support the project managers in event planning and logistical support.

Summary

Women Mentoring Women is a peer mentoring program that links incoming freshmen women with upper-level students in each of the disciplines. The program currently utilizes a group mentoring structure that matches each mentee with multiple mentors so that the probability of establishing a close bond between the mentee and at least one of the mentors is significantly increased. This structure also supports the freshmen mentees in developing peer to peer relationships that can be maintained as they progress through their college career. The success of K-State's Women Mentoring Women program is well documented:

- Since 2002, the number of participants in Women Mentoring Women has tripled.
- Retention rates after the third semester of college has gradually increased to just over 80 percent – significantly above the college's overall retention rate.
- Even while the number of participants in the program has significantly increased over the past few years, the average percentage of members participating in individual events has increased to over 35%.

Historically, Women Mentoring Women events have primarily focused on community building through social interaction. Over the course of the last year, the program has incorporated an engineering and science focus for its social events. Future improvements will focus on adding professional development offerings to the activities available to Women Mentoring Women participants during this academic year.

References

Goodman Research Group, Inc. (GRG). (2002). *Final Report of the Women's Experiences in College Engineering (WECE) Project*. Cambridge, MA: Author.

Ruel, B., Bogue, B., Reyes, M., & Hart, B. (2004). Developing Peer Mentor Programs that Build Community and Increase Retention. *2004 WEPAN Conference Panel Discussion*.