MENTORING PARTNERSHIP PROGRAM FOR WOMEN

George Gant \(^1\) and Kimberly R. Houston-Philpot \(^2\)

\textbf{Abstract} — In 1997, Dow Corning Corporation, researcher and manufacturer of silicon-based materials with headquarters in Midland, Michigan, initiated a formal mentoring pilot process to enhance retention and career progress of women engineers. The initial pilot group was located in Michigan. The impact on the participants was found to be statistically significant. As a result, a similar program was started in 1998 at two Kentucky manufacturing locations. An invitation to participate in the Kentucky program was extended to all professional women working at these sites (not just engineers). The Kentucky pilot results repeated and exceeded those from Michigan. The objectives of both pilots included: countering the influences of negative mentoring, improving skills to enhance career progress, and promoting the development of mentoring relationships. Surveys showed that protégés' skills improved, mentors' job satisfaction increased, and nearly all of the participants' expectations were fully or somewhat met by participation in the program.

\textbf{Index Terms} — Career development, mentoring, minorities, satisfaction, skills, retention, women, women engineers.

\textbf{THE VALUE OF MENTORING}

Mentoring leads to increased performance, a faster rate of promotion, an increased rate of advancement in the early career, greater upward mobility, higher income, more job satisfaction, and enhanced perceptions of success and influence in an organization [1]. By partnering with more-experienced employees, mentoring is also one of the most natural, efficient, and cost-effective ways to develop and retain promising junior employees [2].

The value of these advantages to companies and to individuals is clear. Yet mentoring and other developmental partnering are typically informal processes and are not uniformly available to early career employees. In particular, research indicates that women and minorities are being left out of these important mentoring relationships [3].

\textbf{THE MENTORING PILOT (MICHIGAN)}

To enhance retention and corporate progress of women engineers, Dow Corning began a mentoring pilot process in 1997 in Michigan. This pilot was sponsored by the Women's Issues and Analysis Team, under the auspices of the Office of the CEO. The participants receiving mentoring (called protégés) were women engineers with three to eight years of Dow Corning experience who wished to explore career tracks in management. All women engineers in this category were eligible to join this program. Anyone who volunteered was part of this mentoring pilot.

There were three objectives. The first was to counter the influence of negative mentoring, where experienced engineers (through conscious or unconscious negative communication) lowered the career expectations of women engineering new-hires. In particular, these negative messages discouraged women from working in manufacturing. The second objective was to improve the protégés' skills and competencies that could enhance their career progress. The third was to develop mentoring relationships. In the long run, it was hoped that more women would pursue careers in manufacturing.

The pilot's design was based on theory and research on the separate dimensions of communication-support behavior [4]-[5]. The pilot design also took into account a successful program sponsored by the National Organization for the Professional Development of Black Chemists and Chemical Engineers, in cooperation with Dow Corning and The Dow Chemical Company, which develops formal support for early-career African American employees [6]. Called OCS, this process incorporates current research in organizational communication and mentoring and is designed to avoid problems associated with traditional formal mentoring programs.

Comparing formal and informal (naturally occurring) mentoring, it was determined that formal programs should model features of the informal process. Success in formal mentoring programs is promoted by carefully identifying and selecting potential mentors, involving protégés in the selection process, conducting orientation and training for participants to clarify roles and expectations, encouraging protégés to be responsible for the relationship, and developing realistic expectations [7].

Dow Corning's process was based on the concept of a “support continuum,” which consists of three categories of “developmental partners” who work with early-career employees. A “peer pal” is a colleague of similar rank who actively participates in meaningful tasks and/or social exchanges with the protégé in the first months of employment. The focus is on socialization and rapid movement up the learning curve. In the next step along the continuum, a “coach/guide/advisor” is an experienced person in the organization who is one or two levels above the employee and can act as a role model and form a close developmental relationship. The focus in this second phase

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To measure the progress of protégés and mentors, three instruments were used. First, a self-assessment skill survey was administered pre- and post-program. For the 45 skills found to be important in various Dow Corning positions, participants were asked to rate their own level of proficiency by marking a five-part scale, ranging from "rough edges" to "polished." Categories included personal effectiveness, energizing performance, creating a facilitative environment, knowledge, leading change, value learning, and "sans frontières," which means operating without borders.

The second instrument was a satisfaction survey, administered pre- and post-study. This survey was intended to measure participant beliefs in 10 categories: job satisfaction, satisfaction with Dow Corning, career opportunities, skill capabilities, performance on the job/ability to perform in future, ability to network, knowledge of Dow Corning, feedback on performance, relationship with the supervisor/manager, and the mentoring program. Participants were asked to mark a five-part scale, ranging from "disagree" to "agree." A "comments" section was also included that explored expectations of the mentoring program. To assure anonymity, the data were combined and analyzed for the group (not individuals).

The third instrument was the confidential individual interview, conducted with 30 of the participants at the end of the study. Most were face-to-face, with the exception of several phone interviews. Using a semi-structured format, leading questions were posed. Then individuals were allowed to detour, based on their experiences, thoughts, and feedback. Some thoughts were probed further to elicit additional meaning and to determine what led to the comments/conclusions. Each person was asked to recall the expectations they had as they entered the program. Supervisors were also interviewed to compile their initial reactions and their perceptions concerning the change in the protégé, effects on the protégé's coworkers, the value of the program, and whether they would recommend its continuation.

Post-pilot measures were gauged 45 – 60 days following the official end of the pilot. Additionally, qualitative feedback was received from the participants throughout the year-long pilot (through electronic mail and face-to-face comments to the pilot coordinator).

Skill Assessment Results

The skill assessment offered the most complete set of results in the form of pre- and post-program assessments for each protégé. As a result, this instrument was the most sound statistically. With 45 skills grouped into seven categories, the skill assessment showed positive change in all but one of these categories. Interestingly, in almost half of the skills that exhibited statistically significant change, protégés had
rated themselves high in the pre-assessment and even higher in the post-assessment. On average, protégés did not report losing ground in any skills. By contrast, the protégé control group showed less change. This control group only saw significant upward movement in two skills.

The following skills showed statistically significant positive change (at a 95% confidence level) in the participating protégés: judgment and problem solving, tolerance for stress, rewarding/recognizing, work standards, organizational awareness, strategic thinking, adaptability, and technical/professional knowledge. The only category that didn’t show statistically significant improvement is “Value Learning.” However, protégés rated themselves quite high in this category during the pre-test, which may, in part, account for the lack of improvement.

Regarding mentors, we did not expect mentor skills scores to increase significantly, as they were, by definition, prepared to teach others. However, two participating mentor skills did show significant improvement: resilience and tolerance for stress. Interestingly, mentors showed more improvement in the Satisfaction Survey.

Satisfaction Survey Results
The Satisfaction Survey presented a series of statements grouped into 10 categories, and asked participants to mark a five-part scale, ranging from “disagree” through “agree.” Participating protégés showed no significant change (at the 95% confidence level). A possible explanation for the fact that no significant movement occurred may be that the protégés’ expectations and satisfaction levels were realistic going into the program (perhaps based on information given during the orientation process). This idea is supported by the interviews, where only two of the 40 expectations were listed as not met. An alternative explanation could be the way the data were treated, with centralized results arising from the grouping of all scores into a mean, which might tend to mask changes in individuals.

The fact that movement occurred in more statements in the participating mentors’ survey seems to indicate that their perceptions and expectations changed more during the experience. In the statement regarding whether the mentor considered leaving the company, for example, it was clear that mentors were less inclined to consider leaving Dow Corning during the pilot program.

This corresponds with statements about managerial behavior, where mentor agreement increased over the course of the pilot. Examples of this include the statement: “In Dow Corning, employees are treated fairly regardless of sex, race, religion, age, or any other classification.” This statement went from neutral territory into the “slightly agree” range. A possible explanation for this is the proof of fair treatment offered by the existence of this program, as well as the messages sent during the mentor training and matching process. Other statements showed improvement: “Training exists to prepare employees to perform well in their jobs”; “The mentor training I received gave me the skills I need to participate in this program”; “Supervisors in Dow Corning are doing a good job”; “Supervisors provide the coaching that employees require to accomplish their goals”; and “Supervisors encourage women to pursue career paths that are considered nontraditional for women in Dow Corning.” This last statement started out in the “slightly disagree” realm and moved to neutral territory over the course of the program.

For the participating mentors, several statements had a downward change: “I understand the vision of the corporation” (which started with the highest possible ranking and declined slightly); “My knowledge of Dow Corning is adequate to allow me to help others understand their potential to grow in Dow Corning”; and “I would like to help my protégé attain her career goals at Dow Corning.” This last statement started at the highest possible ranking and dropped to a level still representing agreement. A possible explanation is that mentors began the program with great zeal but later questioned how they could help protégés attain goals. This decline in agreement could also indicate vagueness concerning goals or disagreement with goals. It could also suggest the perception that such an offer to help would overburden an already loaded schedule (although this idea contrasts with mentor responses that they would definitely be willing to continue the program and take on other protégés). It could also reflect perceived lack of appreciation or progress by protégés. This last idea is supported by interview comments.

Interview Results
In the interviews, protégés seemed more satisfied with the program than the mentors, who seemed more concerned with analyzing concrete versus perceived gains from these partnerships. The following table reports satisfaction levels.

In interviews, all supervisors but one saw great value in the program, with some adding qualifiers concerning value for time spent and value for a particular person. The one skeptical supervisor said he needed to see more results before deciding on the program’s value.

<table>
<thead>
<tr>
<th>TABLE I</th>
<th>SATISFACTION WITH PROGRAM</th>
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<tbody>
<tr>
<td>Satisfaction With Program</td>
<td>Frequency of Protégés</td>
</tr>
<tr>
<td>Totally dissatisfied</td>
<td>0</td>
</tr>
<tr>
<td>Barely satisfied</td>
<td>0</td>
</tr>
<tr>
<td>Satisfied</td>
<td>2</td>
</tr>
<tr>
<td>Quite satisfied</td>
<td>7</td>
</tr>
<tr>
<td>Fully satisfied</td>
<td>6</td>
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Nine protégés said they would definitely continue the program; four said they would continue if their mentors stayed in the area; and two didn’t think they would continue. Among mentors, eight said they would definitely continue, and six said “no,” but only because their protégés were either on long leaves or had left the company. When asked if they would take on other protégés, five said “definitely yes.”

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and another five said “probably yes.” Only one said “no,” and that person qualified the answer by saying, “If someone needed help, I would be there.”

Overall, the list of expectations of protégés and mentors gathered before the program started tended to be broader and more idealistic. The later expectations were more focused and fewer in number.

About a third of protégé comments accompanying the pre-program satisfaction survey concerned the desire to explore career choices and receive coaching from the mentor. Most protégés also mentioned career concerns as a first consideration in the interviews. Other protégé comments concerned knowledge of corporate culture, the desire for nonthreatening personal feedback, working out issues such as work/family balance, and the acquisition of skills. These expectations were in line with those expressed in the interviews.

Some protégés expressed positive outcomes of the program in terms of clarifying their own style, affirming their perceptions, and confirming what they already knew. Others said they better understood acceptable ways of handling conflict and dealing with unproductive employees; had a clearer vision of their personal goals; gained technological and other information; and increased familiarity with Dow Corning’s culture.

The interviews revealed that mentors were generally more conservative about what they had accomplished and tended to cite positive outcomes that focus on psychological and social benefits. Two said that their protégés mentioned they were a help, but they were really unsure of how much.

All mentors but one saw value in the program. Two cautioned that it should be evaluated against the cost, especially if the program was expanded to include large numbers. Even so, the idea of expanding it to include other groups besides females arose repeatedly in the interviews.

Conclusions of the Michigan Pilot

The Mentoring Partnership Program for Women Engineers had the following positive impacts:

- Significantly improved skills among protégés
- Significantly raised the level of employee satisfaction among mentors
- Encouraged women to seek their own goals, whether these goals were traditional or not
- Provided an environment for protecting our intellectual capital, while providing psychological, informational, social, technical, and strategic support
- Allowed supervisors to understand and support the value of the mentoring program
- Supported an extension of formal mentoring to all employees

After the Michigan pilot, the Mentoring Subcommittee of Dow Corning’s Women’s Issues and Analysis Team recommended the continuation and expansion of formal mentoring programs for women and minorities, as these groups do not have easy access to informal mentoring. It was also recommended that a process be developed to help supervisors/team leaders understand and be committed to mentoring target groups (women/minorities) as a long-term strategy. The subcommittee also recommended that support systems be developed to increase opportunities for informal mentoring through Dow Corning’s Learning and Career Center and the company’s Intranet. These systems could include: access to potential mentors and protégés, access to programs for understanding mentoring needs, and a “bulletin board” for people seeking mentors.

MENTORING PARTNERSHIP PROGRAM (KENTUCKY)

Because the Michigan pilot program produced clear benefits for both Dow Corning and its employees, plant management at two Kentucky sites asked to extend this developmental opportunity to all professional female personnel at their plants. In contrast to the 1997 pilot, which was limited to women engineers with three to eight years at Dow Corning, this program was less restricted and was open to all exempt female employees, regardless of tenure, occupation, race, and so forth. In order to qualify, one only needed to have an interest in establishing a one-on-one support relationship with a mentor, in maintaining the relationship with her supervisor, and in participating in Dow Corning’s Developmental Partnership Workshop.

In addition to the goals of the Michigan pilot, the Kentucky program had the additional purpose of comparing the two groups to see if the results of the Michigan program would be substantiated. We wanted to see if the experiences of the Kentucky participants were statistically different from those in the original group or if they would be shown to fit into that prior framework.

The 1998 Kentucky participants initially consisted of nine pairs of protégés and mentors and 13 control group members.

Skill Assessment Improvements

Like the Michigan pilot, participants took a 45-item skills assessment survey before and after the program. To see if there were differences between the Michigan and Kentucky groups, the means for all 45 scales on the survey were calculated for the pre- and post-test data. Tests were run to determine if there were statistically significant differences between the original and new protégés and mentors. The results showed no significant difference between the two groups of mentors on both the pre- and post-tests. However, there were significant differences between the two groups of protégés.

In the Michigan group, protégés reported significant increases in eight skills, while the Kentucky protégés showed a significant increase in 16 skills (at a 95%
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REFERENCES


GEORGE GANT

For 35 years, George Gant worked in a variety of technical, managerial, and human resource roles. He currently serves as a consultant focusing on creating the Ideal Human Organization. In 1990, he led an inter-company team of managers in the development of a unique mentoring program for early-career African-American employees. In 1997, he quantified and adapted this program to improve the skills and employee satisfaction of women in corporations. In 1998, he co-authored a booklet on mentoring and other developmental support processes, which received the Athena Award for excellence in mentoring publications. He holds master's degrees in chemistry and business administration, completed the PMD for executive managers at Harvard, and has several patents and publications.

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