

# Team Effectiveness and Individual Myers-Briggs Personality Dimensions

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**Abstract:** Competition in the business world has led to the need for increased productivity. One way that companies, as well as academic institutions, have tried to meet this need is by using teams. However, many of the expected gains from using teams have not yet been fulfilled. This research sought to find a way to make teams more effective by considering and utilizing information on each team member's psychological type. Specifically, the Myers-Briggs Type Indicator was given to engineering senior design students who were completing a one- or two-semester design project in various degree programs at the University of Nebraska-Lincoln. The test was administered during the first week of the students' teaming experience. At the end of the semester, team effectiveness was measured in two ways. The first measure was the grade each team received in their senior design class, while the second measure involved the Team Effectiveness Questionnaire (TEQ). The TEQ allows a team to rate its own effectiveness by answering a number of questions regarding different team-related issues. Findings showed that there was not a significant correlation between psychological type dimensions and team effectiveness, but individuals' training on the type of personality of team members helped them to improve communication, trust, and interdependence, essential characteristics of an effective team. Therefore, understanding and tolerance of individual's behaviors and actions are the largest benefit that the Myers-Briggs test has to offer as a contribution to teams' effectiveness.

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## Introduction

Teams in the workplace are often formed according to the technical knowledge of its members. Little is known, however, regarding the nontechnical factors that determine team performance above and beyond individual competency (Lucius and Kuhnert 1997). When a team fails, "problems are often blamed on 'poor communication,' an overly broad label for a range of personality differences that can create tensions and misunderstandings" (Culp and Smith 2001). Most managers agree that people rarely fail due to a lack of knowledge, skills, or intelligence, but invariably fail because they are unsuitable in terms of temperament and motivation (Acuity 2002).

The recent proliferation of teams in the workplace has led researchers to examine the relationships between various team characteristics and different measures of effectiveness and evaluation. The goal of many researchers in this area is to develop

strategies for the design of work teams to increase the likelihood that they will be effective (Campion et al. 1996). Unfortunately, there has been little research evaluating selection and placement strategies to enhance team process and performance, especially for variables such as personality (Klimoski and Jones 1995). Despite the scarcity of research specifically related to work-team staffing, research in group dynamics may provide a basis for making predictions of how personality preferences are likely to contribute to work-team effectiveness (Hackman 1987). Shaw (1981) suggests that the individual characteristics of group members, as well as the diversity of skills and traits within a group, are important factors related to group effectiveness.

As many companies transition from a traditional hierarchical organizational structure with little employee interaction to self-managed work teams with constant interaction, a positive view of individual differences is important. Today, managers must help their employees understand each other better and realize that someone who is different is no less valuable.

The remainder of this section provides an overview of the instruments used in the study: the Myers-Briggs Type Indicator and a newly developed team effectiveness tool, the team effectiveness questionnaire (TEQ).

## Myers-Briggs Type Indicator Test

The Myers-Briggs Type Indicator (MBTI) was designed by Isabel Myers-Briggs and Katherine Briggs in the 1920s, based on Carl Jung's psychological types. The general aims of type theory involve examination of self and others and self-development. The first aim of type theory is "to provide an economical summary of central aspects of personality, one which increases self-understanding and implies certain ways of behaving more than

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others" (Bayne 1995). The second aim is to help individuals value those people who are of a different type. The third aim of type theory is to encourage people to value their type and to highlight areas of personal development.

The test measures four different dimensions of human preferences through a self-evaluating questionnaire that can usually be completed in 15–20 min. The first dimension, extraversion (E) versus introversion (I), indicates whether a person gets their energy from the outside world of people (preference for extraversion) or from the inside world of thoughts and ideas (preference for introversion). The second dimension, sensing (S) versus intuition (N), represents whether a person prefers the details of a situation (sensing preference) or the overall picture of an experience (intuition preference). The third dimension, thinking (T) versus feeling (F), indicates the way people make their decisions. People with a thinking preference tend to make their decisions based on logic, facts, and fairness, while individuals with feeling preference tend to focus on the effect that their decisions will have on the people involved. The last dimension addresses the way people prefer to organize their world. People who have a judging (J) preference are organized, punctual, and like to plan ahead, while people with a perceiving (P) preference are usually spontaneous, adaptable, and open to new ideas (Myers 1998).

The most important concept borne from the results is that there is no right or wrong preference. According to the theory, all eight preference poles included in the MBTI are used by every person at one time or another (Quenk 2000). The value of the test is derived by learning more about oneself and others and gaining a better understanding of the behavior of someone who has a different preference type.

The use of the Myers-Briggs Type Indicator in a team setting can help to overcome performance obstacles by encouraging members to better understand each other. According to Culp and Smith (2001), understanding individual preferences can "identify potential blind spots or areas of vulnerability on a project team," "demonstrate the value of having diverse styles on the team," and "reduce stress levels by helping the team understand which situations will energize an individual and which will stress an individual."

Generally when the MBTI is used with a group of people in a teaming environment, the MBTI questionnaire is administered to each member individually, and then as a team "they are led through exercises and explanations that impress upon them how the panoply of psychological types on the team can be both a barrier and an asset to working together effectively" (Zemke 1992). According to Coe (1992), the MBTI has been shown to improve personnel management in the following ways: (1) identifying leadership styles; (2) training employees to work better with each other; (3) resolving employee conflicts; and (4) forming work teams that best complement each other.

One reason that personality preferences are so important is demonstrated in the following statement: a neglected assumption of personality psychology is that personality influences other people (Thorne 1987). Because of the influence one's personality has on others, it is an especially important area of study. Group members can have a significant effect on each other. This dynamic view of personality can help to account for some apparent inconsistencies in personality. A sociable individual might behave more sociably around an extrovert than an introvert. This waxing and waning of conduct, rather than indicating an inconsistency in personality, indicates the importance of personality and the necessity of taking another's disposition into account (Thorne 1987).

Whenever one moves from an individual-based measurement

to a team-based measurement, one must include not only the mean of the measurement but also its variance (Neuman et al. 1999). It seems only logical that one should have some idea of the magnitude of the preference. For example, the behavior of a person who has a slight preference for introversion would likely be significantly different than that of a person who has a very strong preference for introversion. This becomes even more important in a team environment, because the interaction of the team members could be affected by the magnitude of the difference in preferences between members. Fortunately, the MBTI score for each dimension does indicate the strength of the preference. Therefore, in performing team-based personality tests, both the average value of the preference for the team and the variance of the preference for the team need to be measured. These two values together fully describe the composition of the team. Neuman et al. (1999) performed this type of research with regards to the big five personality factors (extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience), but comparable experimentation has not yet been published using the Myers-Briggs preference dimensions.

The means of the team's preference dimensions were used for measures of the team's type profile in this study. For example, if a team has a high average value for the thinking preference, it would indicate that the team as a unit would generally make their decisions based on logic and fairness. The second dimension that must be captured is the preference variance between members in a team. If a team has a high variance for a particular dimension, then the team is considered heterogeneous with regard to that dimension, while if the variance is low then the team is considered homogeneous for that trait.

The elevation of personality traits in groups (average value) has received considerable research attention as a predictor of group performance (Hackman 1987; Driskell et al. 1988). Though the research conclusions in this area are by no means unanimous, there does seem to be a general consensus that personality is an important factor in determining how groups function and perform (Neuman et al. 1999). According to Lucius and Kuhnert, "personality is undoubtedly important in a team's composition, performance, and overall effectiveness" (Hawkins 1997). Although there is considerable research addressing this topic, empirical agreement has not been reached regarding which traits affect group performance (Neuman et al. 1999).

Muchinsky and Monahan have dealt specifically with relating the variance of traits to performance. They describe two models of person-environment fit, which may explain whether heterogeneous (high variance) or homogeneous (low variance) teams will result in better job performance (Neuman et al. 1999). A supplementary model of person-environment fit suggests that job performance is improved when team members possess characteristics that are similar to other individuals on the team (Muchinsky and Monahan 1987). A complementary model suggests that performance is improved when team members' personalities are diverse, or heterogeneous, because each member adds unique attributes that are necessary for the team to be successful (Neuman et al. 1999).

A study by Blaylock found that project teams with complementary preferences for taking in information and making judgments outperformed teams where all of the team members had the same preference (Culp and Smith 2001). According to Aamodt and Kimbrough (1982), there has been some support for the superiority of heterogeneous groups involving variables such as intelligence and personality profiles.

## Team Effectiveness Questionnaire

In order to measure team effectiveness, researchers at the University of Nebraska–Lincoln have developed the team effectiveness questionnaire (TEQ). The TEQ utilizes seven characteristics, including productive conflict resolution, mature communication, role clarity, accountable interdependence, goal clarification, common purpose, and psychological safety, as a means to measure the effectiveness of teams (Simon 2001). It is believed that many of the team characteristics tested in the TEQ could be improved by increased team-based psychological type training. Brief definitions of each of these seven constructs are provided.

*Common purpose* is the main objective of the team and should be understood and shared by all team members. Common purpose should lead to the development of the team's goals. Successful teams shape their purposes in response to a demand or opportunity put in their path (Katzenbach and Smith 1993). This helps teams to begin by broadly framing the convener's expectations.

*Clearly defined goals* are quantifiable and commonly agreed upon statements that define the actions to be taken by the team. The attainment of specific goals helps teams maintain their focus.

*Psychological safety* is the shared belief that the team is safe for interpersonal risk taking (Edmonson 1999). Psychological safety leads to a team climate characterized by interpersonal trust and mutual respect, in which people are comfortable being themselves. Psychological safety is a sense of confidence that the team will not embarrass, reject, or punish someone who is speaking.

*Role clarity* is the team members' common understanding of each individual's expected role. The presence of role clarity minimizes misunderstandings regarding task assignments.

*Mature communication* refers to team members' ability to

1. Articulate ideas clearly and concisely,
2. Give compelling reasons for their ideas,
3. Listen without interrupting,
4. Clarify what others have said, and
5. Provide constructive feedback. Mature communication among team members ensures a higher level of understanding.

*Productive conflict resolution* refers to the procedures and actions taken when a conflict occurs that lead to results such as

1. Facilitating the solution of the problem,
2. Increasing the cohesiveness among team members,
3. Exploring alternative positions,
4. Increasing the involvement of everyone affected by the conflict, and
5. Enhancing the decision-making process (Capozzoli 1995).

*Accountable interdependence* is the mutual dependence that all team members have regarding the quality and quantity of each individual's work within the team. Mutual dependence generates a shared sense of security.

These seven constructs were identified from the literature and the work of leading theorists and practitioners in industry and academia, along with the personal experiences of the research team as contributors to high performing teams. Furthermore, these constructs can be applied to a wide variety of teams and can be measured by asking team members for their attitudes, opinions, and perceptions.

The TEQ is divided into two main parts. The first part is used to collect demographic data and information on individual preferences regarding teaming and previous team experiences. The second part of the questionnaire is used to measure the student's ability to effectively work in teams and to measure their understanding of each of the characteristics identified by the researchers as vital for the performance of the team. Between five and

nine questions were included in each of the categories.

The team effectiveness questionnaire was constructed using both nominal scales and interval scales. Nominal scales are used in the first part of the questionnaire to collect demographic information and student preferences towards teaming. A five-point Likert scale ranging from "strongly agree" (1) to "strongly disagree" (5) was used as the interval scale for the second part of the questionnaire. Interval scales are used for most questionnaires for several reasons: (1) variables measured in interval scales can be analyzed using parametric statistics that are based on the assumption that the scores represent a normal distribution around the population mean; and (2) these scales provide the most variation of responses, lending themselves to better data analysis.

## Methodology and Analysis

The participants in this experiment were senior design students at the University of Nebraska–Lincoln College of Engineering and Technology during the spring semester of 2002. A total of 200 students were enrolled in the senior design classes that were studied. Eighty-four percent of the participants were male and 16% female. Sixty-five percent of the students were between 22 and 24 years old, and 40% had spent between four and five years in college. Forty percent of the class participants had a GPA between 3.0 and 3.5, and 32% had a GPA greater than 3.5. Approximately 90% of the participants in the sample were White/Caucasian.

The departments that participated in the research study were: Agricultural and Biological Systems Engineering, Chemical Engineering, Computer Engineering, Construction Management, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. Three of the aforementioned disciplines (Agricultural and Biological Systems, Electrical, and Mechanical) have senior design projects that extend across two semesters. Both the first semester and second semester classes participated in the study.

The teams used in these engineering senior design classes performed many of the same tasks as self-managed teams in the workplace. Once assigned a project, they were responsible for all aspects of its completion. The professor was available when needed to facilitate communication with an outside company or to help procure additional resources, but the team alone was responsible for the quality of their project. Therefore, it was assumed that the senior design teams qualified as self-managed teams.

Data was collected from the senior design students at two points during the semester. During the first 2 weeks of class, the students completed the Myers-Briggs Type Indicators questionnaire. During the last 3 weeks of the semester, the students completed the team effectiveness questionnaire (TEQ) in class.

In completing the MBTI, students were given the instructional booklet, answer sheet, and a sheet that briefly explained what the Myers-Briggs was not measuring. This sheet was included to reinforce the idea that individual answers are not right or wrong. After an MBTI certified facilitator scored the tests, approximately half of the students were given the standard, required training that accompanies the application of the MBTI. The other half of the students, or the control group, received the training session on the same day they completed the Team Effectiveness Questionnaire at the end of the first semester.

The training lasted about one hour and was given approximately one month into the study. The training included an explanation of the different type preferences, how people with a given type preference are likely to react to a certain situation, aggravate

tions of opposite type preferences, and the strengths and weaknesses that each type preference brings to the teaming environment.

The performance of the senior design students was measured in two different ways. One measure was the grades that the teams received in their senior design classes. The second measure of performance was generated from the responses to the TEQ questions that dealt specifically with performance. The average level of performance was obtained by averaging the team member's answers to the performance-related questions. The performance measure, the attitude measure, and the measures of productive conflict resolution, mature communication, accountable interdependence, and psychological safety obtained from the TEQ are referred to collectively as the TEQ measures.

One objective of this study was to test whether the average team values for each preference dimension predicted high performance in teams, or whether the variance of the team's scores for each dimension predicted high performance. In order to analyze the MBTI data in this manner, slight modifications were needed. Though generally the scores for each dimension are given on a scale that is positive toward both opposing ends of the scale, this is not feasible for statistical analysis. Instead, the extroversion (E), sensing (S), thinking (T), and judgment (J) ends of the dimension were chosen to be positive, and the others—introversion (I), intuition (N), feeling (F), and perceiving (P)—were negative, simply to ease the data analysis process. With the data in this form, the team's average score and variance were calculated for each of the four preference dimensions. If a team had a negative 10 score for the E-I dimension, it indicated that the team, on average, had the introvert preference with a strength of 10. It is these averages and variance scores that will be used in further correlation analysis.

An additional interest of this study was to investigate whether the length of the teaming experience had an effect on the team's effectiveness. In order to test whether or not teams felt that they became more effective during the second semester class as compared with the first semester class, the data had to be reduced. Only the data from the classes that had a two-semester senior design projects was considered. The departments included in this analysis were: Agricultural and Biological Systems Engineering, Electrical Engineering, and Mechanical Engineering. This data set was then used to determine if there was a length of project duration that could affect the TEQ measures.

## Results

A total of 193 senior design students completed the Myers-Briggs Type Indicator test. The average subject exhibited the introversion, sensing, thinking, and judging preferences (ISTJ). This is not surprising, because these four preference types are found to be the most common for individuals in the engineering profession (Culp and Smith 2001). Five students did not complete the class; therefore, a total of 188 students completed the team effectiveness questionnaire.

### Correlation Tests between TEQ Measures and MBTI Data

First, the mean and variance of each personality dimension were calculated for each team. The team averages for the E-I, S-N, T-F, and J-P dimensions are referred to, respectively, as E-IAve, S-NAve, T-FAve, and J-PAve. The variances for the E-I, S-N, T-F,

**Table 1.** Correlations between MBTI Averages and TEQ Measures

TEQ measure	E-I average	S-N average	T-F average	J-P average
Performance	-0.102	-0.055	0.025	-0.124
Conflict	-0.118	0.066	-0.083	-0.019
Communication	-0.048	0.010	0.065	-0.136
Interdependence	0.040	-0.045	0.062	-0.207
Attitude	-0.016	0.135	0.185	-0.067
Psychological safety	-0.098	-0.016	0.009	-0.113

and J-P dimensions are referred to as E-IVar, S-NVar, T-FVar, and J-PVar. The averages and variance of all personality dimensions are referred to collectively as the MBTI data. Once these numbers were obtained, correlation tests were run to test whether the TEQ measures and the team's average grade were related to the MBTI data.

The first statistical tests investigated the correlation between a team's average score for each preference dimension and the TEQ measures. The same group of tests was also conducted for the team's variance score for each preference dimension. The correlation values for the MBTI averages and TEQ measures can be found in Table 1. The correlation values for the MBTI variances and TEQ measures can be found in Table 2.

In general, neither the team's average scores nor the variance of the scores was significantly linearly correlated to the team effectiveness constructs, the team's self-rated performance, or the attitude of the team members. Only the correlation between the E-I dimension variance and attitude was found to be statistically significant ( $r=0.285$ ;  $p=0.026$ ).

Though variance is usually the measure that is used when quantifying the spread of data, these researchers chose also to test the correlations between the standard deviation of the Myers-Briggs data and the TEQ measures for completeness. Of all of the correlations between the TEQ measures and the standard deviations of the preference dimension scores, only one was negative. The other 47 were positive and less than 0.221.

This suggests that, though the standard deviation of the scores does not account for a statistically large portion of the variance in the data, it is nevertheless a minor factor to be considered. This is supported by several bodies of research that list personality as a factor, but not the most important factor to be considered when using teams. This also seems to confirm the fact that for complex tasks it is not possible to find an ideal team profile with respect to the Myers-Briggs preference dimensions.

**Table 2.** Correlations between MBTI E-I Variance Scores and TEQ Measures

TEQ measure	E-I variance	S-N variance	T-F variance	J-P variance
Performance	0.242	0.137	-0.012	0.171
Conflict	0.049	-0.030	0.049	-0.001
Communication	0.148	-0.022	0.072	0.202
Interdependence	0.226	0.056	0.024	0.195
Attitude	0.285	-0.079	0.030	0.201
Psychological safety	0.237	0.008	0.091	0.232

**Table 3.** Correlations between Team Grades and MBTI Data

MBTI dimension	Grade
E-I average	0.089
S-N average	-0.189
T-F average	0.204
J-P average	-0.286
E-I variance	0.071
S-N variance	-0.054
T-F variance	0.067
J-P variance	0.155

### Correlation Tests between Team's Average Grade and MBTI Data

The next set of tests were performed to determine if there was a correlation between the average grade for each team and the MBTI data. The average team grade was calculated by taking the average of all team members' grades. In some classes, all students on a team received the same grade, while in other classes, the professor allowed for individual contributions. The grades for the students were given according to the plus and minus scale at the University of Nebraska-Lincoln. The grades were coded as integers in descending order from A+ through to F. For example, an A+ was coded as a 1, an A was coded as a 2, an A- was coded as a 3, etc. Correlation tests were conducted for both the average and the variance of the MBTI dimensions. The results are shown in Table 3.

The only statistically significant correlation involved the J-P dimension average ( $r=-0.286$ ;  $p=0.027$ ). The significant J-P correlation suggests that the team grade was negatively correlated with the J average, meaning that it would be positively correlated with the P average. This seems to indicate that having at least some team members with the P preference is desirable for short-term engineering project teams. In general, engineers tend to have the J preference. This correlation may indicate that the addition of someone with a less common preference is beneficial.

### ANOVA between MBTI Training and TEQ Measures

The next set of tests compared the TEQ measures for students that had the Myers-Briggs training session with those that did not. This was done using a one-way analysis of variance (ANOVA). The results in Table 4 show statistical significance in the TEQ measures of performance ( $F=4.263$ ;  $p=0.043$ ), communication ( $F=4.452$ ;  $p=0.039$ ), interdependence ( $F=7.854$ ;  $p=0.007$ ), psychological safety ( $F=5.100$ ;  $p=0.028$ ), and attitude ( $F=11.323$ ;  $p=0.001$ ).

These results reinforce the value of team training. Even a short session of training significantly increased the levels of mature communication, psychological safety, and interdependence in the teams. The training also significantly affected the overall attitude felt by the team members.

### ANOVA on Length of Teaming Experience for TEQ Measures

The data for the three disciplines that had a two-semester senior design class was then analyzed to see if the TEQ measures for the teams in the first semester classes were significantly different from the data of the teams in the second semester class. This was done using an analysis of variance (ANOVA). The results are shown in Table 5.

**Table 4.** ANOVA on Team Type Training for TEQ Measures

TEQ measure	Sum of squares	df	Mean square	F	Significance
<b>Performance</b>					
Between groups	1.252	1	1.252	4.263	0.043
Within groups	17.324	59	0.294		
Total	18.576	60			
<b>Conflict</b>					
Between groups	0.283	1	0.283	1.583	0.213
Within groups	10.544	59	0.179		
Total	10.826	60			
<b>Communication</b>					
Between groups	0.587	1	0.587	4.452	0.039
Within groups	7.776	59	0.132		
Total	8.363	60			
<b>Interdependence</b>					
Between groups	1.987	1	1.987	7.854	0.007
Within groups	14.925	59	0.253		
Total	16.912	60			
<b>Psychological safety</b>					
Between groups	0.887	1	0.887	5.100	0.028
Within groups	10.266	59	0.174		
Total	11.153	60			
<b>Attitude</b>					
Between groups	1.819	1	1.819	11.323	0.001
Within groups	9.481	59	0.161		
Total	11.300	60			

**Table 5.** ANOVA on Length of Teaming Experience for TEQ Measures

TEQ measure	Sum of squares	df	Mean square	F	Significance
<b>Performance</b>					
Between groups	0.400	1	0.400	1.247	0.272
Within groups	11.225	35	0.321		
Total	11.625	36			
<b>Conflict</b>					
Between groups	0.543	1	0.543	2.808	0.103
Within groups	6.763	35	0.193		
Total	7.305	36			
<b>Communication</b>					
Between groups	0.401	1	0.401	2.520	0.121
Within groups	5.574	35	0.159		
Total	5.975	36			
<b>Interdependence</b>					
Between groups	0.544	1	0.544	1.800	0.188
Within groups	10.587	35	0.302		
Total	11.131	36			
<b>Psychological safety</b>					
Between groups	1.279	1	1.279	7.009	0.012
Within groups	6.386	35	0.182		
Total	7.665	36			
<b>Attitude</b>					
Between groups	0.822	1	0.822	4.014	0.053
Within groups	7.164	35	0.205		
Total	7.986	36			

The ANOVA was not significant for the measures of performance ( $F=1.247$ ;  $p=0.272$ ), conflict ( $F=2.808$ ;  $p=0.103$ ), communication ( $F=2.520$ ;  $p=0.121$ ), interdependence ( $F=1.8$ ;  $p=0.188$ ), and psychological safety ( $F=4.014$ ;  $p=0.053$ ). Attitude was the only measure with a significant difference between groups ( $F=7.009$ ;  $p=0.012$ ).

The results show that, in general, the second semester classes do not feel that they are operating at any higher levels with respect to the TEQ measures than are the first semester classes.

## Conclusions

This research found that there were no statistically significant correlations between the team *average* MBTI data and the TEQ measures. This reinforces the idea that, though personality does play a role in team performance, it cannot predict the performance or effectiveness of a team. However, one statistically significant correlation existed between the team's MBTI E-I *variance* and the TEQ attitude construct. This correlation shows that having a variety of levels of preference along the E-I dimension is beneficial to the attitude that is fostered by the team.

The study did not find significant gains in team effectiveness or performance measures in classes that were together for a second semester as compared with the students that had only been together for one semester. This seems to show that, without additional team training throughout the time that the team is together, the team reaches its peak effectiveness during the first semester of the project.

This research did not conclude that a particular combination of personality type preferences have a direct incidence on team effectiveness. Instead, individuals knowing and understanding the type of preference through training helped them to improve their communication skills, trust, and interdependence—essential characteristics of an effective team. Students' knowledge of each other strengths, tendencies, and preferences enables effective communication and interaction and allows the team to take advantage of member strengths (Cannon-Bowers et al. 1995).

Because this study did not find any statistically significant differences between the TEQ measures for the first and second semester senior design classes, it seems that something should be done differently. As teams work together for longer periods of time, their effectiveness measures should increase up to a certain point. Because this did not happen with the teams in our study, it would be wise to continue to train the teams on different team subjects throughout both semesters. The training could be adapted to the needs of the team to help to facilitate increased team interaction as well as effectiveness. Because multiple organizations and educational institutions are using teams to perform, it appears that anything that can be done to increase the effectiveness of the teams is beneficial.

In conclusion, in order to contribute to the effectiveness of teams in engineering education as well as in organizations, teams should be provided with information on psychological type to help members better understand each other. Knowledge of personality type preferences helps to eliminate the idea that a person is the way he/she is simply to aggravate another team member.

Tolerance and understanding of another individual's behaviors and actions are the largest benefits that the Myers-Briggs Type Indicator has to offer in assisting teams to become more effective.

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