

Team Teaching in Higher Education: Personalities, Leadership Styles, and Preferences

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Abstract

Objective: This study aims to find out more about a) certain personality types, leadership styles, and teaching philosophies of those who have participated in team teaching, as well as b) their preferences for team teaching. These preliminary results ought to be helpful to faculty who may be asked to consider team teaching with a colleague(s), and results may help academic administrators assign and match faculty to team teach courses in their program offerings.

Background: Given that few faculty have had the opportunity to team teach relative to the numerous courses they offer solo, there is a lack of focus, faculty development opportunities, and research on this subject. This does not, however, diminish the value of this method of delivering courses in higher education. Faculty may explore collaborative teaching in a number of ways, such as inviting a colleague to provide a one-time guest lecture, distributing assignments according to the collaborators' specialized knowledge, or working together on every part of the course.

Methods: Using previously developed Myers-Briggs personality type finders and leadership style research tools, the participants' leadership and personality types were identified (Malak et al., 2022). People's experiences with teaching and preferences for leading vs. following were mapped using both qualitative (self-report) and quantitative (survey) approaches.

Results: Sixty-three percent of the respondents identified as utilizing either servant leadership or coaching/mentoring. The majority of "E" type personalities like to "Lead," especially in a team-teaching atmosphere, according to this study's findings. The traditional team-teaching method was adopted by 49% of the participants, while 26% used cooperative learning, 11% used integrated learning, 9% used parallel learning, and the remaining 6% used monitoring learning. It is important to highlight that more than 60% of the subjects who had "E" qualities had backgrounds in nursing, public health, health administration, or health care.

Conclusions: In summary, the faculty survey data reveal an overall profile of the faculty who have team taught in higher education as an extrovert with a penchant for judging; who prefers to lead rather than follow; uses a coaching/mentoring or servant leadership style; and prefers high level cooperation with a colleague(s) in the full range of teaching/learning activities.

Keywords: team-teaching, faculty, myers briggs, leadership style, coaching, mentoring, higher education, academia

1. Background and Rationale

The often-espoused observation, if not some type of “badge of honor,” that “nobody taught me how to teach” is a peculiar confession by faculty in higher education. The sequel to this long-standing comment is “I learned to teach in spite of no formal training to do so during my doctoral experience” (Gambescia, 2018). We understand that the main objective of the Ph.D. curriculum and doctoral experience is the development of researchers—developing their craft of teaching is secondary and something we hope will come in due time (Menand, 2010). Teaching in higher education is a profession for which there is little to no “training” or some type of supervised and applied practice.

Regardless, most college and university faculty recognize teaching as part of the traditional responsibilities of being a

productive faculty member, along with research, service, and in some preprofessional programs practice. Faculty won't be at a loss for resources related to teaching. Universities have developed units of varying degrees of staffing, resources, and offerings to assist faculty to develop their teaching skills. Such supports range from taking advantage of faculty in their schools of education who naturally can provide education and training on pedagogy and andragogy. Units within the university may provide support to improve faculty teaching via workshops, expert panels, continuing education, mentoring, and online education offerings. Furthermore, some universities have developed well-staffed and resourced faculty development units that strive to help faculty achieve excellence in teaching (centers, institutes, departments). There are over one hundred "teaching and learning" centers at universities that make a significant commitment in this area (Filene, 2005, p.155).

A myriad of peer-reviewed journals, newsletters, and recently established websites are available to help faculty improve their teaching. These include articles with a pedagogical focus in general journals of higher education research or practice. Disciplines have developed over time journals on how to teach a subject matter such as biology, chemistry, or writing. There are several journals for each pre-professional area such as nursing, medicine, law, education, public relations, journalism, and business, to name a few. The content of each faculty development enterprise mentioned above would need a very long list of "keywords" to show areas addressed in such support. These all fit within the three fundamental questions we ask ourselves as educators:

1. What do students need to know? (Curriculum)
2. How do I teach it? (Pedagogy/andragogy)
3. How do I know what they have learned? (Assessment)

Not surprisingly, there is a dearth of attention, faculty development opportunities, and research in the area of team teaching, given that few faculty have had an opportunity to team teach relative to the many courses taught solo. However, this does not make this approach to delivering coursework in higher education, less valuable. There are several ways faculty may consider team teaching such as having a colleague provide a one-time guest lecture, dividing assignments based on the subject matter expertise of the collaborators, or collaborating on every aspect of the course (Boston University, 2022). Team teaching may be referred to as co-teaching or collaborative teaching. Generally, collaborators work to plan, instruct, and assess learners in a particular course or parts of a course. More specifically, team teaching is taking place when 1) One instructor observes another in the teaching; 2) There is parallel teaching; 3) Station teaching; e.g., in skill building coursework 4) Alternate teaching of subject matter; and 5) One instructor is the lead and another educator is assisting or learning in a mentorship or practicum relationship. For this study, by team teaching we mean two or more faculty who have contributed to almost all parts of the teaching/learning process in the course—from planning to grading students' work—and the collaborators have had a significant amount of time synchronously engaged with students (on ground face-to-face or electronically mediated).

2. Purpose and Specific Aims of This Study

Given there is little attention given to team teaching in the range of faculty development activities in higher education, the purpose of this study is to learn more about a) select characteristics of those who have participated in a team-teaching—personality type, leadership type, and teaching style; and b) their preferences when team teaching. Such preliminary findings should be useful to faculty who may be asked to consider team teaching with a colleague(s) and results could assist academic administrators to assign and match faculty to team teach courses in their program offerings. Questions considered in this study are:

- 1) What general personality type (Myers-Briggs Model) do the faculty completing a self-administered questionnaire identify as?
- 2) What leadership style do the faculty completing a self-administered questionnaire identify as?
- 3) Self-reported teaching style
- 4) What preferences do the faculty surveyed report when team teaching?

Furthermore, we will analyze the relationship between and among the faculty characteristics learned from the questions above.

3. Review of Extant Literature

We are not aware of a published comprehensive literature review of articles on team teaching in general higher education journals or books on higher education teaching; hence, this is novel research and it fills a gap in the existing body of knowledge on team teaching. We found an early (1998) article in the journal *Teaching and Teacher Education* by Anderson and Speck that points out the challenge in defining what is meant by "team teaching," as they found such a definition to be a "cacophony of voices." The article claims that the literature supports the value of student learning in

higher education; however, the works cited discuss such disparate approaches to team teaching that even the authors note there is little known about team teaching in higher education.

In a 1999 publication on management education Wenger and Hornyak claimed that team teaching could develop students to “analyze robustly and think critically.” After team teaching an introductory business course for six years, they developed a framework to link team teaching to cognitively complex learning objectives and gave “insights for team teaching protocols when applying [their] framework.” They discussed faculty and student experiences with team teaching, which they noted as “generally positive.” The number of faculty queried about their experience and the method of “the ask” was not identified. Student reactions were gained by over 100 student surveys. The authors’ conclusion for team teaching in the work done in those six years was that team teaching:

- Can be done with relatively little increased cost.
- Allows teachers to explore the upper levels of the Bloom taxonomy cognitive domain and to broaden their own understanding of how their subject fits into the overall curriculum.
- Encourages students to visualize, evaluate, and judge a variety of experiences within a supportive yet challenging classroom environment.
- Can help students learn how to generate ideas at higher levels of learning.
- Moves toward the Socratic ideal of helping students give birth to new ideas.
- Opinions by faculty initially “risky” for reasons such as giving up unitary control of the classroom, having one’s own ideas publicly challenged, and openly acknowledging the limits of one’s knowledge that can be emotionally challenging.

In a 2014 *IDEA* paper, Kathryn Plank shared experiences and advice from faculty who have written about their team-teaching experiences. For example, “Many who have taught as part of a team report the break from solitary practice brings renewed excitement for teaching and the course that makes them better teachers.” They explained that team teaching “creates a learning environment in which students can explore multiple perspectives and ways of knowing.”

Ellen Song and Mark John Sanchez wrote a commentary published in *Inside Higher Ed* (2021) giving lessons learned from teaching together for several years the course “Cultures of U.S. Empire,” for sophomores in an honors program. They are “up front” about some misconceptions faculty may have about team teaching. For example, they note that

- Team teaching may not simply “divide the workload in half.” Team teaching can add to the workload of the faculty.
- Marking assignments could take double the time, especially assignments that are narrative and need much feedback for the students.
- There may be a clash of teaching styles, which for those teaching for many years may find hard to change.
- Team teaching would not go well with faculty who need major “control over their classroom.”
- Upfront planning should take much more time for course preparation.
- When changes are needed during the course, some many are not so nimble when an audible is called.

“Team-teaching emerged as a topic of interest for educational researchers in the 1960’s, but scholarly attention has diminished...(Cruz & Geist, 2019, 2). One of the challenges to understanding the nature and extent of team teaching in higher is definitional for how faculty identify the range of teaching. Consequently, education scholars are working toward a typology for team teaching. McKenzie, Harris-Wesson, Bangay & Botwell (2022) in an 11-week blended learning course in an Australian University, not surprisingly concluded that “role clarity, an agreed-to approach for classroom communications, and purposeful integration of [Information and Communication Technologies] was crucial to the success of a team-taught course.

Through a scan of a few classic books used in faculty development, we surprisingly did not find many references to team teaching. *Team teaching: what, why, and how* (Buckley,2000.) is an important work in this area and one of the few books dedicated to team teaching. and *McKeachie’s Teaching Tips* (Svinicki & McKeachie, 2013) is a classic work for new and experienced university teachers that explains in detail an exhaustive scope of topics in the teaching/learning process in higher education did not cover this topic. In a more casual coaching style, Peter Filene promises the *Joys of Teaching* (2005) in his practical guide for new college instructors. While the back book cover notes that Professor Filene “tackles everything” in the teaching-learning process, team teaching to build one’s knowledge, skill, and attitude awareness is not covered. He gives an annotated bibliography along these areas: general guides, theory, practices, select discipline teaching, teaching centers, and links to other resources. Discussion on team teaching is not evident.

Parker J. Palmer's *The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life* (2007) gets very close to discussing the value of team teaching. In one of the most reflective books on teaching, Palmer implores us to develop a community of colleagues with whom we can discuss our teaching freely, critically, and constructively, especially by being in each other's classrooms observing (pp. 148-161). Peer review of teaching is commonplace in the academy and has tremendous value. However, to use the analogy of selecting the members of the elite 8-person rowing team, being in the boat with the rowers gives a more acute understanding of the rowers' skills, than watching the rowers outside the boat.

The impact on team teaching for faculty and students should qualify as an innovative and creative step in "doing something different." A read of a popular and groundbreaking work by "mover and shaker" and thought leader in the future of education Ken Robinson does not address team teaching in his book *Creative Schools: The Grassroots Revolution That's Transforming Education* (2015). Robinson addresses a robust set of how to change the art of teaching in our schools, the importance of professional development, reflective practice, and striving for excellence in teaching, but there is no mention of how team teaching can be part of his "revolution in education."

It is surprising that scholars, practitioners, and advocates behind the major adult education movement that started around 1980 (Knowles) referred to as andragogy does not address team teaching among its litany of teaching changes in higher education. A scan of some dozen books in this area of andragogy does not show evidence of the practice of team teaching. A scan of popular college adjunct instructor guides does not address team teaching in any way.

Peter Seldin's popular *Teaching Portfolio* (2010) gives faculty a "practical guide to improved performance" to explain, document, and overall demonstrate quality teaching, deserving of recognition via promotion. Anyone who has developed a teaching portfolio knows the importance of individual reflection, as well as feedback from students, colleagues, and administrators. Nothing is said about the value of including a team-teaching experience in this popular higher education faculty guide.

In Don Chu's first edition of *The Department Chair Primer*, in a brief Chapter 16 on "How to Support Teaching and Learning," he advises department chairs to "Encourage team teaching between members of different departments. Cross fertilization can revitalize teaching and complement pedagogical styles" (2006, p. 102).

When journal articles, information in books on teaching, and the general dialogue from the faculty development enterprise in higher education mention team teaching, it is related to two areas of interest: student outcomes and the reported experience of a small number of faculty participating in team teaching (Hanusch, Folker, Obijiofor, Levi, & Volcic, Zala, 2009). This is understandable as both are significant if we want to learn more about the use of this pedagogical strategy. Our interest in this current study is to identify the characteristics of a faculty member (personality type, leadership style, and teaching style) to see how these relate to teaching preferences in this instructional approach. Thereafter, we wish to match these characteristics with the preferences of knowing when to lead and knowing when to follow, when team teaching. Results should give academic administrators and faculty insight into who would be suited and satisfied with a team-teaching assignment.

4. Method

Based on literature reviews, we decided to answer our research questions through a combination of qualitative and quantitative research designs comparing multiple variables. Prior research on personality type, leadership style, and team teaching was mainly qualitative. Previously developed Myers Briggs personality type finder (Tuity, 2022) and leadership style research tools (Malak et al., 2022) were used to find the personality type and the leadership styles of the participants. To map individuals' experiences toward teaching as well as their preferences of leading versus following, both qualitative (self-report) and quantitative (survey) approaches were employed. To learn about faculty characteristics, we invited qualified faculty (those we understood had a team-teaching experience in higher education.) to complete a voluntary Qualtrics survey composed of 16 questions that would take approximately 40 minutes to complete.

This longer than usual time to complete a survey is justified given the unique profile of those surveyed, i.e., full-time faculty who have team-taught in their careers. The survey is organized around the following five parts: 1) basic descriptive information about the participants and their academic status and experience in teaching 2) self-reported questions to determine one's personality type (Myers-Briggs); 3) self-reported questions to determine one's general leadership style; and 4) self-reported questions about one's teaching style. We encouraged the participants to take the survey at two different times. First, the participants can take the personality survey launched from another link to gain their four-letter personality profile type. These profile letters are asked for, in the questionnaire. While some may "know their" personality type from prior surveys, we encouraged participants to determine their profile anew, for consistency and reliability in comparing our results. (See survey at <https://www.truity.com/test/type-finder-personality-test-new>.) The two-step process helped expedite survey completion and may be more convenient for participants.

5. Defining Team Teaching and Recruitment of Participants

For the purposes of this study, we defined team teaching in higher education narrowly as two or more faculty cooperating in almost all aspects of the teaching/learning process: a) defining course objectives; b) planning course content's scope and sequence; c) creating learner activities; d) deciding on approaches to teaching and who teaches what; e) creating student learner assessments and rubrics used for review; f) reviewing students' work and giving students feedback—graded and ungraded; and g) assigning student grades. As the literature review above shows, the term “team teaching” may be considered by faculty who are teaching together at varying levels of collaboration without robust engagement, as we define in our investigation. Therefore, we kept a broad interpretation of team teaching to learn more about faculty preferences in this study.

Faculty participants were recruited via the following methods to give us a prospective subject list in which to invite faculty to take a 13-question survey. First, the authors had experience team teaching with other faculty at their university which generated a group of eligible prospects. Second, authors emailed colleagues at their own university who directed team-taught courses (e.g., Honors College, Intra-collegiate Programs, Interprofessional degree programs). Third, as word spread about the study, authors asked for eligible faculty in their university or other universities that had experience team-teaching as defined above. A standard recruitment email to identify prospects was developed and used for all encounters to establish consistency in messaging and to be efficient in not inviting those who did not fit the definition of team teaching as defined in the study. Naturally, the invitation to the actual group of prospective subjects would pass IRB standards in working with human subjects.

It is important to note that at no time did we send a mass invitation to either get the names of prospective faculty or invite faculty to take the survey. Our rationale was to ensure we engaged eligible faculty participants from the start, i.e., those known to have team-taught. These three methods generated a list of 80 prospective faculty to email an invitation to take the survey. Sixty-three faculty from the prospect list were from the authors' university; 20 were from other universities. There was no effort to recruit from a particular college, department, discipline, or profession. Naturally, the author's familiarity with colleagues who had team-taught was from the health professions, given this was the area of teaching for the authors. After this health professions area, there was no leading area in which a prospective subject was taught.

Once this prospect list was generated, an invitation email was sent to the 80 prospects a) inviting them to participate in the survey; b) explaining the purpose of the survey; c) explaining the type of questions asked; d) giving the estimated time to complete the survey, e) noting the survey was voluntary and anonymous; and f) stating the IRB approval. There were no incentives given to take the survey. One reminder email was sent to the subject prospect list three weeks after the first invitation.

6. Demographics and Profile of Faculty Member Section of the Survey

Demographics

There are three questions to gain basic demographic information about the respondents (sex, age, and race). Nine questions were asked to gain more information about the subjects: highest degree earned; number and of types of degrees earned, current teaching status (e.g., full-time, retired), academic department affiliation, years teaching in higher education, number of courses team-taught, academic rank, and subject area or field for teaching.

Personality Type (Myers-Briggs Model)

Participants were then asked to take an online personality type questionnaire; see

<https://www.truity.com/test/type-finder-personality-test-new> which should take about 15 minutes to complete.

Participants would fall into one of the 16 categories of personalities identified by four letters. A question on the survey asked the participant to input their four letters, indicating which of the 16 profiles they represented.

People naturally differ in their interests, responses, attitudes, motives, and talents. They consistently differ in what they observe and how they conclude. According to Isabel Briggs, the Myers-Briggs Type Indicator® (MBTI®) personality inventory aims to make the theory of psychological types understandable and practical. The fundamental tenet of the theory is that people's seemingly random behavior is quite orderly and consistent because of fundamental variations in how they prefer to use perception and judgment. For instance, all methods of being aware of things, people, events, or ideas are included in perception (P). All methods of drawing judgments about what has been viewed are included in judgment (J). Four dichotomies are broken into 16 personality types through interaction and preferences (Myers, 2022). The outer or inner world determines Extraversion (E) or Introversion (I). Focusing on the information or interpretation and adding meaning determines Sensing (S) or Intuition (N). Preference for logic or people and circumstances determines Thinking (T) or Feeling (F). Lastly, preference for deciding or staying open to new information determines Judging (J) or Perceiving (P). Figure 1 illustrates the 16 personality types that exist in the numerous pieces of literature.



Figure 1. Myers-Briggs’ 16 Personality Types

Leadership Style

Minett-Smith and Davis (2020) in an effort to “widen the discourse in team teaching in higher education” in the UK, noted that “leadership” will play an important role as we move to more team-teaching opportunities. They recognize that more needs to be done in faculty support to develop pedagogical leadership. In other words, the need is beyond subject matter expert and teaching unilaterally, to how does one take on the leadership role as much as the supportive content expert role.

After the personality type identification, participants were asked to choose one of the 11 leadership styles shown on a chart. The leadership styles had six descriptors on how a person thinks, feels, and acts. Leadership style pertains to those who lead, how they lead, the situation they lead, and lastly who follows them. Here is a list of the top and most common leadership styles which are reported in several works of literature: 1) Coaching 2) Visionary 3) Servant 4) Autocratic 5) Laissez-Faire 6) Democratic 7) Pacesetter 8) Transformation 9) Transactional 10) Bureaucratic and 11) Situational. There are multiple leadership styles that an individual can have; however, for this study, we focused on the vital leadership styles (See Figure 2).



Figure 2. 11 Key Leadership Styles

Leading versus Following

Participants were asked to choose from two types of profiles that resonate with their approach to teaching. These two profiles indicate the comfort level of the person leading or following in their work. In general, one has to choose whether to “Lead” or “Follow” when collaborating in their work. While a leader vs. follower overall profile or preference may be evident; people don’t necessarily always lead or always follow in the many activities involved in carrying out a collaborative project.

Table 1. Leading versus Following Attributes.

Lead	Follow
Leaders are prepared to step up and assume charge of a task or endeavour. They like a challenge and welcome change since they are aware of its long-term advantages.	A project has to be pushed by a leader on behalf of their followers. They seldom ever offer to volunteer for a project. Even if the positive features outweigh the negative, this is still true. They are content to live their lives upholding the "status quo".
Leaders are creative because they can strategically plan the best strategy to accomplish the goal after they have a broad understanding of the project.	Followers require guidance and detailed instructions. They frequently want continual affirmation and acceptance as a way to protect themselves in case something goes wrong.
Leaders take initiative and don't settle with idly waiting for the next thing to happen. They hate inactivity and get insane when there is no advancement. They take ownership of their actions and find motivation in overcoming challenges.	As long as no one is talking behind their backs, followers are reactive and happy with inaction. When they encounter challenges that derail them, they look to leaders to help them regain confidence and get back on track.
Leaders push teams and individuals forward to the final line. They are unstoppable forces that will smash past any barrier in their path, similar to freight trains. That doesn't necessarily imply that they run over any obstructions in their path. A competent leader will emphasize cooperation above individual success. To inspire team members and win their support for their strategy, they commend individuals of the group they are responsible for.	Some of the spectators are kicked and screaming as they are hauled past the finish line. However, some people could have discovered a strength inside themselves that might allow them to take on a leadership role the next time. Or they could have at least gained enough knowledge to prevent them from contributing to the bloodshed left behind in the future.
Fear does not paralyze leaders; instead, it makes them stronger. They confront it head-on and give it the finger.	When things get even somewhat difficult, followers stop. They seek comfort once again and may allow fear to influence their judgment. The dread is frequently unfounded, but for some people, it serves as an excuse to back away from a task.

Teaching Philosophy/Style for Teaching

Participants were asked to choose from six teaching philosophy/style profiles that relate to teaching with others in some capacity, other than solo. The profiles had from four to six descriptors (See Table 2 below). These are essentially team-teaching profile types. As noted in the “Background and Rationale” in this article, faculty will have various opinions for what they consider team teaching.

Table 2. Team Teaching Models.

<i>Classic Team Teaching</i>	<i>Cooperative Teaching</i>	<i>Integrated (Lead-Support) Teaching</i>
Content Instructor Present the New Information	Instructor teaches new material at the same time	One instructor teaches the content
Co-Instructor assists	Instructor model the learning plan	Co-instructor provides follow-up activities
Focus on instruction without interruption	Spontaneous discussion about the topic in front of students	Instructors showcases their specialties
	Primarily for group work	Instructors try new activities
	Respectful working relations between adults	
	Both instructors provide perspective on the topic	
<i>Parallel Teaching</i>	<i>Distinct Class Split Teaching</i>	<i>Monitoring Teaching</i>
Class is divided into two groups	Divide the class up by level of learning and provide instruction as needed	Content expert teaches all course material
Each instructor teaches the same content to each group	Divide the class up and match stronger students up with students that need more assistance	Co-instructor monitors the students' understanding and comprehension
Provides for a smaller group and more individual attention	Provide differentiation opportunities	Minimal coordination
Allows for greater control of behavioral problems	Provide remediation	Allow for delivery of quality instruction without interruptions
	Smaller groups provide more individual attention	Conceal weaknesses if the co-instructor is not as strong on the subject

7. Results

Qualtrics, web-based software was used to collect the survey responses. Statistical analysis was done using the Statistical Package for Social Sciences (SPSS) software, Version 28.0. Demographic characteristic questions were analyzed using a nominal scale frequency distribution to identify the percentage of responses that fell into specific categories. The leadership styles tool assessed which leadership styles the participants practiced as well as whether they liked to lead or follow. Teaching style, Likert-scale, and open-ended questions provided insights into their team-teaching preferences. A thematic approach was applied to both qualitative and quantitative data to tease out insightful information about the profile, preferences of the college-level faculty team teaching with a colleague(s).

8. Demographics

There was a total of eighty-three faculty members (83,) for whom there was some indication that they had team-taught in higher education, invited to take the survey. Thirty-eight responded to the survey for a response rate of close to 46%. One faculty member did not have experience in team teaching, thus not meeting the inclusion criteria. Two faculty began, but did not complete the survey. This left an “n” of 35 faculty members for this study.

As you see from the tabulated demographic results summarized in Table 3 below, sixty-five percent (n = 24) were females and thirty-five percent (n = 13) were males. Sixty percent (n = 21) were Caucasian, twenty percent (n = 7) were African American/Black, fourteen percent (n = 5) were Asian, and six percent (n = 2) were other.

Fifty-one percent (n = 18) were full-time, twenty-nine percent (n = 10) were retired, fourteen percent (n = 5) were part-time, and six percent (n = 2) of participants were adjunct. Sixty percent (n = 21) had been teaching for more than ten years and forty percent (n = 14) of the participants had been team teaching for less than ten years.

Fourteen percent (n = 5) of participants' age range was from 31 to 40 years old. Eleven percent (n = 4) were 41 to 50 years of age. Twenty-six percent (n = 9) were 51 to 60 years of age. Twenty-six percent (n = 9) were 61 to 70 years of age. And remaining twenty-three percent (n = 8) were older than 71 years of age.

Eleven percent (n = 4) of the participants' academic rank was instructor, twenty-six percent (n = 9) were assistant professors, thirty-four percent (n = 12) were associate professors, and twenty-nine percent (n = 10) were professors.

Sixty percent ($n = 21$) had a doctoral degree, four had a professional degree; thus 71% of the faculty surveyed were at the doctoral level. Those with a doctoral degree and one or more master's degrees were twenty-one percent ($n = 10$). Those with a single master's degree only were thirty-two percent ($n = 15$). Those with multiple master's degrees, but no doctorate were thirteen percent ($n = 6$).

Fourteen percent ($n = 5$) of the participants were in education, thirty-seven percent ($n = 13$) were in the health and healing profession, twenty-six percent ($n = 9$) were in nursing, nine percent ($n = 3$) were in engineering, three percent ($n = 1$) in information science, and remaining twelve percent ($n = 4$) were in social science and design field.

Table 3. Tabulated Demographic Results

Gender	Frequency	%
Female	24	65
Male	13	35
Ethnicity	Frequency	%
White/Caucasian	21	60
Black/African American	7	20
Asian	5	14
Other	2	6
Employment	Frequency	%
Full-Time	18	51
Retired	10	29
Part-Time	5	14
Adjunct	2	6
# of Teaching Years	Frequency	%
1 - 3	3	8
4 - 9	3	8
10 – 15	10	27
16 – 20	5	14
> than 20	16	43
Age	Frequency	%
31 – 40	5	14
41 – 50	4	11
51 – 60	9	26
61 – 70	9	26
71 and above	8	23
Academic Rank	Frequency	%
Instructor	4	11
Assistant Professor	9	26
Associate Professor	12	34
Professor	10	29
Education	Frequency	%
Master's Degree	10	29
Doctorate Degree	21	60
Professional Degree (MD, JD)	4	11

# of Degrees	Frequency	%
One Master	15	32
One Doctorate	22	47
Two Masters, One Doctorate	1	2
Two Doctorates	1	2
One Master, One Doctorate	2	4
Two Masters	6	13
Teaching Field	Frequency	%
Health & Public Health	13	37
Nursing	9	26
Education	5	14
Engineering	3	9
Information Science	1	3
Social Science & Design	2	6
Design	2	6

Personality Type

Out of the sixteen Myers-Briggs personality types, all the participants in this study could be clustered into six personality types. Thirty-one percent ($n = 11$) was ENFJ. ENTJ, INTJ, and INFJ were each twenty percent ($n = 7$). Likewise, ESFJ, ENFP, and EIFJ were each three percent ($n = 1$). All but one of the participants had the “judging” characteristic. Approximately, 94% of the participants had “intuitive” characteristics. About 60% of the participants were extroverts and 40% of the participants were introverts. Furthermore, sixty-six percent ($n = 23$) of these participants believed they liked to lead and thirty-four percent ($n = 12$) saw themselves as followers. A summary of this can be found in Table 4.

Table 4. Personality Type Results

Personality Type	Frequency	%
ENFJ	11	31
ENTJ	7	20
INFJ	7	20
INTJ	7	20
ESFJ	1	3
ENFP	1	3
EIFJ	1	3
“Lead” vs. “Follow” Preference	Frequency	%
Lead	23	66
Follow	12	34

Leadership Style in Academic Environment

Thirty-four percent ($n = 12$) of the participants practiced coaching or mentoring leadership style, twenty-nine percent ($n = 10$) practiced servant leadership style, fourteen percent ($n = 5$) practiced transformational leadership style, fourteen percent ($n = 5$) practiced visionary leadership style, and remaining nine percent ($n = 3$) practiced democratic leadership style. A summary of this can be found in Table 5.

Table 5. Leadership Style Results

Leadership Style	Frequency	%
Coaching/Mentoring	12	34
Servant	10	29
Transformational	5	14
Visionary	5	14
Democratic	3	9

Teaching Philosophy “Preferences”

Fifty-one percent (n = 18) “believed” they practiced cooperative teaching, which is defined as Co-teaching, a method that prioritizes collaboration and communication to meet the needs of all students. The components of a team, however, frequently vary across professors and even between institutions of higher education. Forty-three percent (n = 15) reported a philosophy where all students get active academic and skill instruction from teachers. For instance, another teacher may be generating a concept map on the overhead projector as the students are listening to the instructor present the new knowledge which is known as classic team teaching. Six percent (n = 2) identified themselves as preferring integrated team teaching which is where general education is provided by the teacher jointly to a class that has students with and without disabilities. However, in “reality” forty-nine percent (n = 17) of the participants practiced Classic team-teaching style, twenty-six percent (n = 9) cooperative teaching, eleven percent (n = 4) integrated teaching, nine percent (n = 3) practiced parallel teaching, and remaining six percent (n = 2) practiced monitoring teaching style. A summary of this can be found in Table 6.

Table 6. Teaching Philosophy Results

“Believed” Participant Practiced Teaching Style	Frequency	%
Cooperative Team Teaching	18	51
Classic Team Teaching	15	43
Integrated Team Teaching	2	6
“Actual” Participant Practiced Teaching Style	Frequency	%
Classic Team Teaching	17	49
Cooperative Team Teaching	9	26
Integrated Team Teaching	4	11
Parallel Team Teaching	3	9
Monitoring Team Teaching	2	6

Personality Type + Leadership Style + Teaching Philosophy

Sixty-six percent (n = 23) of the participants were “E” type personalities and preferred to “Lead” while thirty-four percent (n = 12) were “I” type personalities who preferred to follow (see Illustration 1).

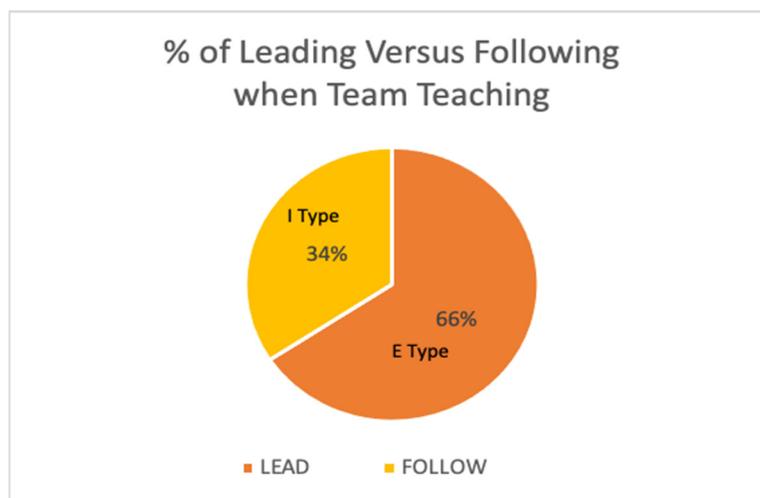


Illustration 1. Personality Type breakdown among Participants who like to “Lead” versus “Follow”

Sixty-four percent (n = 22) of the total participants predominantly practiced coaching/mentoring and servant leadership styles were “E” type personalities. On the other hand, thirty-seven percent (n = 13) of the participants who practiced transformational, visionary, and democratic leadership styles had a combination of “E and I” types (see Illustration 2).

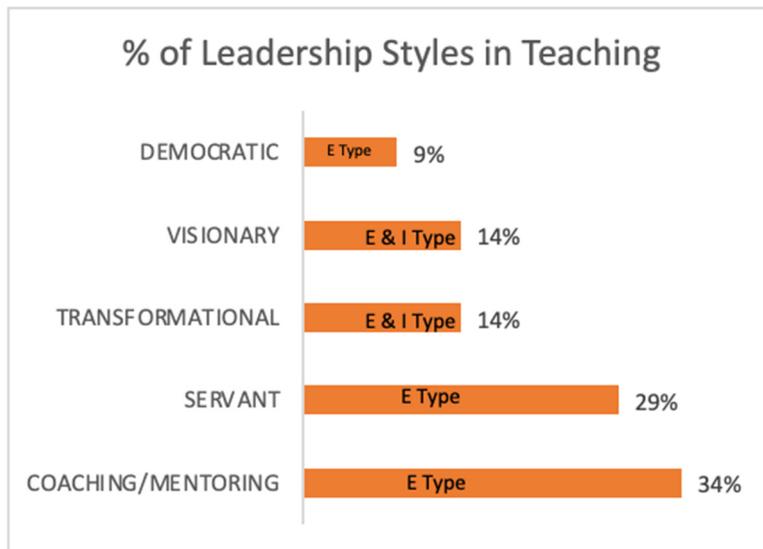


Illustration 2. Personality Type Layover of Participants among Teaching Style Philosophy.

Forty-nine percent (n = 17) of the participants preferred team teaching style and were of “E” type personality. Twenty-six percent (n = 9) preferred cooperative teaching and were also “E” type personalities. Eleven percent (n = 4) preferred an integrated teaching style and were a combination of “E and I” type personalities. Furthermore, nine percent (n = 3) preferred parallel teaching and were “I” type personality. The remaining six percent (n = 2) preferred monitoring teaching style and were also “I” type personalities. See Illustration 3.

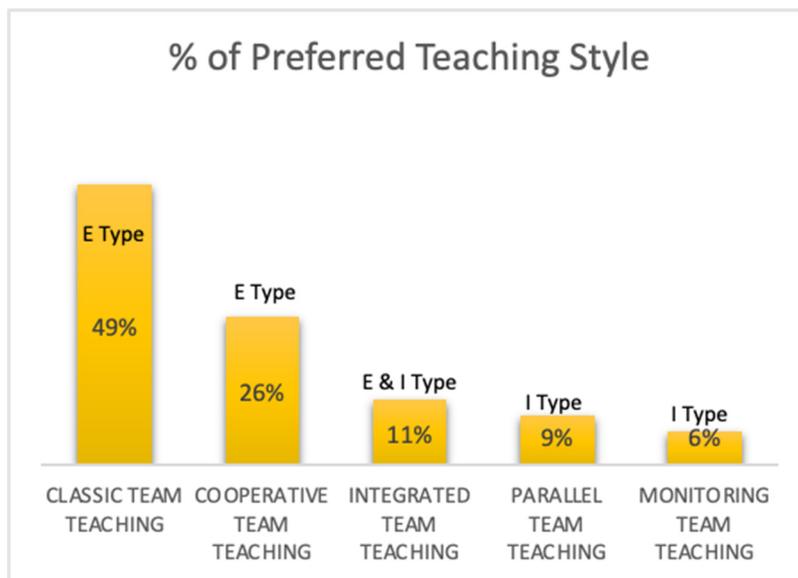


Illustration 3. Personality Type Layover of Participants among Teaching Style Philosophy.

9. Discussion

It is surprising that as much attention given to the core function of a faculty member in higher education (teaching) and their ostensible nature for collaboration, there is little known about team teaching. We are not aware of a study or literature review that accounts for the *extent* of team teaching in higher education. Furthermore, our review of the literature and scan of a range of faculty orientation and development books and a look at the faculty development resources in universities/colleges, found that the topic of team teaching is not salient. Published information about team teaching in higher education is sparse. Research we found involved small numbers of faculty in any study. Nothing was

said about the *characteristics* of those who had team taught in their careers. Research into the area of team teaching is of current and future interest, given major initiatives are a foot for faculty teaching in higher education to be more interdisciplinary and interprofessional, especially in the healing professions (NCIPE, 2023). Therefore, we set out to learn about the *profile or characteristics* of those faculty who had team taught at least one course in their careers, i.e., personality type, leadership style, and teaching philosophy. The overall profile gained from our survey of 35 faculty who have team taught in higher education is an extrovert with a penchant for judging; who likes to lead rather than follow; uses a coaching/mentoring or servant leadership style; and prefers high level of cooperation with a colleague(s) in the full range of teaching/learning activities.

The subjects surveyed for this study were faculty members in higher education who had team taught at least one course with a colleague(s). The participants completing the survey were from a range of disciplines/professions who collaborated and worked together toward the same objectives to offer high-quality education for students. In our findings, there were a total of thirty-five participant instructors, assistant professors, associate professors, professors, and emeritus that represented about seven major study areas, with the most in the health field (63%). Interdisciplinary work is challenging as it requires several people to collaborate to provide high-quality education for students at any level of study.

This study addressed four main questions: 1) What general personality type (Myers-Briggs Model) did the faculty completing a self-administered questionnaire identify as? Not surprisingly, about sixty percent of the faculty identified as extroverts. While there is the enduring stereotype of the “aloof” professor and forty percent of participants were introverts, it is fair to say that the responsibilities and activities required of a faculty member in higher education involves a high level of exposure to a range of people, and most often these people are in large groups. Furthermore, to commit to teaching with another colleague “exposes” one to the heart and soul of what one does in one’s profession and is exceptional to the overwhelming majority of time faculty spend as “free agents” going about their work. As a leading author, speaker, and educator Parker J. Palmer notes, whether you are an introvert or an extrovert, it takes “courage to teach” (Palmer, 2018).

Similarly, it is not surprising that a clear majority of those team-teaching like to lead, rather than follow. Sixty-six percent of the participants favored leading rather than following as an overall personality type. While much is made of having a “collegial” nature in higher education, much of what needs to be in the teaching/learning process demands a high degree of leading versus following. However, this may be more important when the faculty member is in the role of a “free agent,” i.e., responsible for the range of activities involved in teaching. How does this characteristic of “leading vs. following” play out in team teaching, especially between or among those used to working on their own with students? One major question to consider for further research is to test how the ability of a faculty member knowing when to lead and knowing when to follow makes for healthy and effective team teaching. In other words, faculty may by self-selection be stronger extroverts and prefer leading, but when team teaching one may need to toggle between leading and following and feel comfortable with the latter role.

Except for one faculty member answering the survey, every participant possessed the “judging” trait in the personality test. Furthermore, nearly 94% of the subjects had the “intuitive” trait. This is expected as a standard practice of instruction is assessing students’ work; giving feedback whether graded or not graded. One of the three fundamental questions noted in the introduction to this article is how do we know what students learned in a course. Judging is a core activity of teaching at any level. Further research with faculty who have team taught is to learn if the “judgement” trait is stronger among those with experience team teaching than those who have not.

2) What leadership style did the faculty completing a self-administered questionnaire identified as? Sixty-three percent of the respondents categorized themselves as using either coaching/mentoring or servant leadership. A significantly smaller percent of the respondents (28%) categorized their leadership style as either transformational or visionary. Faculty naturally view themselves as servant leaders, and as noted above the core of what one does in education is to coach and mentor students in academic formation (Greenleaf, 2002). Transformational and visionary leaders gravitate to business type enterprises (Hammel & Prahalad, 1996). Given the high number of faculty respondents representing the health professions, one would expect a common trait of these faculty as coaches and mentors, given the pedagogy of the health professions is quite *formative* in the teaching/learning goals.

When combining both extroversion with leadership styles, sixty-four percent of the participants who had “E” type personalities, mostly used coaching/mentoring and servant leadership approaches. Therefore, it can be concluded that the majority of participants had an extraverted personality alongside a coaching leadership style profile.

3) In review of the respondent’s self-reported teaching style, they “thought” they employed cooperative teaching, according to 51% of them, i.e., a high degree of collaboration on almost all facets of the course management components. The classic team-teaching method, in which teachers actively instruct all students in academics and practical skills, was used by 43% of the respondents. Six percent of respondents said they preferred integrated team

teaching. In "reality," however, only 49% of the participants used the classic team-teaching approach, while 26% employed cooperative learning, 11% utilized integrated learning, 9% utilized parallel learning, and the other 6% utilized monitoring learning.

4) What preferences did the faculty survey report when team teaching? 64% of the participants had "E" type personalities and mostly used coaching/mentoring and servant leadership approaches. On the other hand, 37% of participants who employed transformational, visionary, and democratic leadership techniques exhibited traits from both the "E and I" types. Moreover, among the participants, 66% were "E" type personalities who liked to "Lead," whereas 34% were "I" type personalities who preferred to "Follow." Overall, according to this research findings, the majority of the "E" type personalities like to "Lead", especially in team teaching environment. It is critical to note that more than sixty percent of the subject who exhibited "E" traits were from health, public health, health administration, and nursing background. Individual experiences vary; therefore, further studies in this interstellar are necessary.

10. Limitations of Study

The universe from which to invite faculty to participate was not a systematic or randomized group but a sample for which the authors or those solicited for names, knew faculty who had team-taught. There was no attempt to balance the survey among disciplines/professions. Invitations and respondents to the survey was overrepresented by those in the health professionals (63%). The participants were mostly from one mid-size R1 urban university (75%). Female faculty were significantly higher in representation (65%). The sample size (35) and the geographic location of the participants were limitations that preclude the authors from making a significant claim for generalization of those faculty with team teaching preferences. The study's limitations may also stem understandably from the respondents' varied personalities aside from the common occupation of being a faculty member in higher education. Future studies should consider a larger sample size. This research made a solid contribution to the team-teaching findings of Plank (2014), Folker et al., (2009), and the leadership style findings of Malak et al., (2022) work.

11. Conclusion

In conclusion, the results from the collected data from the faculty survey reveal an overall profile of the faculty who have team taught in higher education as an extrovert with a penchant for judging; who likes to lead rather than follow; uses a coaching/mentoring or servant leadership style, and prefers high level of cooperation with a colleague(s) in the full range of teaching/learning activities. More specifically this research alludes that there is a strong correlation between mentoring/coaching and servant leadership style and "E" type personalities in a team-teaching environment. It also showed that individuals' personality types and leadership styles are interconnected with their team-teaching preferences. Approximately seventy-five percent of the participants knew and followed the classic and cooperative team-teaching models. Overall, participants with "E" type personalities liked to "Lead" in a team-teaching environment; on the other hand, "I" type personalities in a team-teaching environment mainly preferred to "Follow". Most significant for further research is getting an understanding of the experiences (positive or negative) and preferences of those who have team taught, and why. Furthermore, and a more complex question to explore, is the hypothesis that a healthy and effective team-teaching experience is between and among faculty who know when to lead and when to follow in this work. Providing more insight into the characteristics of faculty who make for a healthier and effective team teacher will assist academic administrator in forming teaching teams and help faculty know what type of colleague with whom they would "get along with" in a team-teaching arrangement. Such research will only gain importance as higher education units restructure into interdisciplinary departments, versus the traditional "single subject area" departments, e.g., mathematics, sociology, chemistry. Similarly, there is a major movement afoot for interprofessional education, research, and practice, especially among the health professions.

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