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## A COMPARISON OF PERSONALITY TYPE & LEARNING STYLE OF ELEMENTARY EDUCATION MAJORS, MATH MAJORS, AND MATH PROFESSORS: CULTURES IN CONFLICT

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National concern exists regarding the math performance of women and minorities. At IWU, faculty and students have reported frustration and dissatisfaction with Math 105, Mathematics for Elementary Teachers, a class composed almost entirely of females. An examination of the Illinois Wesleyan experience might shed light on the national situation.

It was hypothesized that elementary education students would differ from math majors and professors on the Myers-Briggs Type Indicator (MBTI), a self-report instrument derived from Jung's theory of personality types. In addition, differences in learning style as determined by performance on the Productivity Environmental Preference Survey (PEPS) were expected. It was hypothesized that personality type and learning style of math majors would resemble math professors.

The elementary education junior class (n=20 females), upper-level math majors (n=21, 7 females and 14 males), and math professors (n=4, identity unknown, however, 5 of 6 IWU math faculty are male) were administered both instruments by the Director of the Career Center. ACT math scores for elementary education students in the study ranged from 17 to 34 (mean=24.65, mode=23.00, median=24.5).

No significant differences were found among the three groups on the PEPS for factors such as persistence, motivation, and structure. MBTI profiles of math students and math professors were alike but elementary education students differed dramatically. Statistically significant differences were found between elementary education and math students on the Thinking-Feeling scale ( $z=2.94$ ,  $p<.01$ ). The proportion of elementary education students whose preference on the T-F scale was Feeling (80%, n=16) differed significantly from that of math majors who preferred Feeling (33%, n=7). Differences were found between elementary education students and math faculty on the Sensing-Intuitive Scale ( $z= 1.67$ ,  $p<.1$ ). Fifty-five percent (n=11) of the elementary education students preferred intuitive cognitive processing as compared to 100% of the faculty (n=4). Significant differences between education students and math faculty were found on the Thinking-Feeling Scale ( $z = 2.4$ ,  $p <.05$ ).

The education students' dominant type, Feeling, (40%, n=8) was the third auxiliary, the weakest type, for 50% of the participating math faculty (n=2). Conversely, Thinking, the dominant type for those math faculty, was the education students' third auxiliary. According to MBTI research, students often resist and take an emotionally defensive posture when teachers' dominant type challenges their third auxiliary. Students learn best in classes which utilize their dominant type and gradually strengthen the third auxiliary.