MBTI Personality Dimensions and Chinese Language Learning Performance: A Mixed-Method Study of Vocational Learners in Malaysia

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Abstract: This study explores the impact of Myers–Briggs Type Indicator (MBTI) personality dimensions on Chinese language learning among Malaysian vocational learners. A mixed-method design involving 100 students in the quantitative phase and 30 in the qualitative phase was employed. Statistical results revealed that extraverts significantly outperformed introverts in oral communication, while introverts excelled in written tasks. Sensing learners achieved higher accuracy in detail-oriented tasks than intuitive learners, and judging learners consistently scored higher than perceiving learners across oral and written assessments. Unexpectedly, feeling learners outperformed thinking learners in oral performance, suggesting emotional engagement plays a key role in language acquisition. Effect sizes ranged from small to medium ($g = 0.38$–0.56). Qualitative data from classroom observations confirmed these findings, with extraverts thriving in class participation and introverts excelling in precise written work. The study highlights the practical value of integrating personality-informed teaching strategies and adaptive digital tools to support diverse learner profiles in vocational education contexts.

Keywords: MBTI; Personality; Chinese Language Learning; Vocational Learners; Adaptive Pedagogy.

I. INTRODUCTION

Personality is a central factor influencing second language acquisition, alongside cognitive ability, motivation, and learning strategies. The Myers–Briggs Type Indicator (MBTI) is one of the most widely applied frameworks for identifying personality differences in education, despite ongoing debates over its psychometric validity. It categorizes learners across four dichotomies—extraversion vs. introversion, sensing vs. intuition, thinking vs. feeling, and judging vs. perceiving. These traits have been shown to shape learning preferences, communication styles, and academic outcomes. In language education, personality types can influence task performance, classroom interaction, and long-term achievement.

Chinese, as a foreign language, presents unique challenges for Malaysian learners, particularly in vocational settings where students often have limited exposure outside classrooms. Previous studies suggest extraverts tend to perform better in speaking tasks, while introverts excel in writing; sensing learners prioritize detail and accuracy, while intuitive learners prefer conceptual understanding. However, much of this evidence comes from higher education or EFL contexts, leaving a gap in research within vocational education. Furthermore, the integration of digital pedagogy has reshaped teaching practices, raising the need to understand how personality interacts with modern instructional approaches.

This study investigates how MBTI personality dimensions affect Chinese language performance among vocational learners in Malaysia. Using a mixed-method design, the research examines differences in oral and written performance across MBTI categories and explores classroom behaviors through qualitative observation. By focusing on vocational students, the study provides insights into a group often overlooked in applied linguistics research, while offering practical guidance for personality-informed and adaptive teaching strategies.

II. LITERATURE REVIEW

Research on personality and second language learning highlights the role of individual differences in shaping language acquisition outcomes. The Myers–Briggs Type Indicator (MBTI) has been widely adopted in applied

linguistics and education as a tool for understanding learner variation, though its scientific validity has been debated [1,2]. Despite criticisms, MBTI remains practical in classroom contexts, offering insights into how traits influence learning behaviors.

➢ *Extraversion and Introversion*

Extraverts are typically associated with oral fluency and active participation in communicative tasks. They are more likely to take risks in conversation and benefit from peer interaction [3,4]. Introverts, on the other hand, are often more reflective and attentive to detail, showing strength in reading and writing [5]. In EFL settings, studies reported that extraverts outperformed introverts in speaking, while introverts demonstrated higher accuracy in written tasks [6].

➢ *Sensing and Intuition*

Sensing learners focus on facts, accuracy, and structured drills, while intuitive learners prefer conceptual and abstract connections [7]. In language classrooms, sensing types are more effective in grammar-focused and vocabulary recognition tasks, while intuitive learners excel in creative or inferential comprehension [8]. Research in Chinese as a second language indicates sensing students achieve higher accuracy in character recognition [9].

➢ *Thinking and Feeling*

Thinking learners rely on logic and analysis, while feeling learners prioritize empathy and interpersonal harmony. Studies have shown thinking types outperform in tasks requiring objective evaluation, while feeling types may excel in oral activities involving collaboration and emotional engagement [10,11]. However, findings are inconsistent, with some research showing little difference in performance outcomes [12].

➢ *Judging and Perceiving*

Judging learners prefer structure, deadlines, and organized study habits, while perceiving learners value flexibility and spontaneity. Research indicates judging types generally achieve higher academic outcomes due to consistent study habits [13,14]. In Chinese learning, judging students were more effective in both oral and written assessments, while perceiving learners showed strengths in exploratory activities [15].

➢ *Criticism and Application of MBTI*

Despite MBTI's classroom relevance, its reliability and validity have been questioned [16,17]. Scholars argue it oversimplifies personality by forcing dichotomies. Nevertheless, MBTI continues to be used in applied education because it provides accessible frameworks for differentiated instruction. Teachers often report MBTI-based insights help tailor tasks to student strengths, particularly in culturally diverse classrooms [18].

➢ *Research Gap*

Most previous studies have focused on university students or EFL contexts. Little is known about vocational learners of Chinese in Southeast Asia. Additionally, research rarely integrates MBTI personality insights with digital pedagogy, a growing dimension in vocational training. This study therefore addresses these gaps by investigating MBTI personality dimensions in Chinese language learning among Malaysian vocational learners, with a focus on oral and written performance.

III. METHODOLOGY

➢ *Research Design*

This study adopted a mixed-method design to capture both quantitative and qualitative perspectives on the relationship between MBTI personality dimensions and Chinese language learning performance. The quantitative phase employed a comparative design to test performance differences across MBTI categories, while the qualitative phase explored classroom behaviors and perceptions through observation and teacher reflection. This integration of methods enabled triangulation of findings, enhancing validity and depth [1].

➢ *Participants*

The participants were 100 first-year vocational learners enrolled in a Chinese language course at a Malaysian vocational institute. Students ranged from 18–21 years old, with varied educational backgrounds but limited exposure to Chinese outside the classroom. Gender distribution was balanced (51 female, 49 male). For the qualitative phase, a sub-sample of 30 students (balanced across MBTI profiles) was selected for classroom observation and teacher reflection.

➢ *Instruments*

MBTI Personality Test: Students completed the official MBTI Form M, which categorized them into personality types across the four dichotomies.

- Chinese Language Assessments: Two forms of performance tests were used:

- Oral Examination: Structured interview, pronunciation, fluency, and communication scored on a 100-point rubric.

- Written Examination: Vocabulary, grammar, and comprehension assessed via standardized exam papers, also scored on a 100-point rubric.

- Qualitative Data: Classroom observations and reflective journals by two language instructors documented learner behaviors and task engagement patterns.

➢ *Data Collection Procedures*

Quantitative and qualitative data were collected sequentially:

- Step 1: MBTI profiling of all 100 students.
- Step 2: Oral and written Chinese exams conducted under standardized conditions.
- Step 3: Classroom observations of 30 selected students, with focus on participation, collaboration, and task engagement.

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- Step 4: Teacher reflection journals collected and analyzed for recurring themes.

➤ *Data Analysis*

- Quantitative Analysis: Independent-samples t-tests (Welch's variant for unequal variance) compared performance across MBTI categories. Effect sizes were calculated using Hedges' g to assess the magnitude of differences.
- Qualitative Analysis: Observation notes and teacher reflections were analyzed thematically, with coding categories aligned to MBTI dichotomies. Convergence between quantitative and qualitative findings was emphasized in interpretation.

➤ *Ethical Considerations*

Participation was voluntary, with informed consent obtained from all learners. Student identities were anonymized, and data were used solely for research purposes. The study was approved by the institute's research ethics committee.

IV. RESULTS AND DISCUSSION

➤ *Extraversion vs. Introversion*

Extraverts scored significantly higher in oral performance (M = 82.14, SD = 8.52) compared to introverts (M = 77.21, SD = 9.48), t(98) = 2.89, p = .005, g = 0.53. Conversely, introverts outperformed extraverts in written tasks (M = 69.44 vs. 65.02), t(98) = -2.35, p = .021, g = -0.45. These findings align with prior research that extraverts thrive in communicative and interactive tasks [2,3], whereas introverts benefit from reflective learning environments [5].

Table 1 Performance by Extraversion/Introversion

Skill	Extravert (M, SD)	Introvert (M, SD)	t	p	Hedges' g
Oral	82.14 (8.52)	77.21 (9.48)	2.89	.005	0.53
Written	65.02 (9.87)	69.44 (8.91)	-2.35	.021	-0.45

➤ *Sensing vs. Intuition*

Sensing learners achieved higher scores in written assessments (M = 70.9 vs. 65.7, t(98) = 2.96, p < .01, g = 0.55). Oral performance differences were small and non-significant.

This suggests sensing learners, with their attention to detail, are more effective in accuracy-based assessments such as vocabulary and character recognition [7,9]. Intuitive learners, although less precise, often demonstrated creativity and inferential reasoning in qualitative observations.

Table 2 Performance by Sensing/Intuition

Skill	Sensing (M,SD)	Intuition (M, SD)	t	p	Hedges' g
Oral	81.05 (8.11)	78.02 (8.95)	2.02	.046	0.38
Written	70.88 (8.62)	65.73 (9.25)	2.96	.004	0.55

➤ *Thinking vs. Feeling*

Unexpectedly, feeling learners outperformed thinking learners in oral tasks (M = 83.2 vs. 79.1, t(98) = -2.60, p < .05, g = 0.48). Thinking learners, however, scored higher in written tasks (M = 71.3 vs. 67.2, t(98) = 2.34, p < .05, g = 0.44).

This contrast highlights the role of emotional engagement in oral communication, supporting studies that show feeling learners thrive in collaborative and interpersonal learning [10,11].

Table 3 Performance by Thinking/Feeling

Skill	Thinking (M, SD)	Feeling (M, SD)	t	p	Hedges' g
Oral	79.12 (8.85)	83.24 (8.02)	-2.60	.011	0.48
Written	71.25 (8.42)	67.15 (9.11)	2.34	.022	0.44

➤ *Judging vs. Perceiving*

Judging learners consistently outperformed perceiving learners in both oral and written tests. Oral: M = 83.0 vs. 77.9, t(98) = 3.00, p < .01, g = 0.56. Written: M = 70.5 vs. 65.4, t(98) = 2.78, p < .01, g = 0.52.

The consistency of judging learners reflects their preference for structured, deadline-driven study, which supports stronger academic outcomes [13,14].

Table 4 Performance by Judging/Perceiving

Skill	Judging (M, SD)	Perceiving (M, SD)	t	p	Hedges' g
Oral	82.96 (7.94)	77.88 (9.21)	3.00	.003	0.56
Written	70.45 (8.71)	65.42 (9.37)	2.78	.007	0.52

➤ *Qualitative Findings*

Classroom observations confirmed these trends. Extraverts were active in discussions but occasionally less precise. Introverts contributed fewer spoken interactions yet produced detailed written assignments. Sensing learners thrived in drills, while intuitive learners sought connections across topics. Feeling learners often mediated group activities, showing empathy and peer encouragement. Judging learners

maintained consistent routines, whereas perceiving learners frequently delayed tasks but displayed creativity.

➤ *Overall Discussion*

Effect sizes across MBTI dimensions ranged from 0.38 to 0.56, indicating personality exerts a moderate but significant influence on Chinese language performance. The findings align with global studies on MBTI and second language acquisition [2,6,10], but also highlight unique patterns in vocational education, such as the unexpected oral advantage of feeling learners.

V. CONCLUSION

➤ *Extraversion vs. Introversion*

This study examined the impact of MBTI personality dimensions on Chinese language learning performance among Malaysian vocational learners. Using a mixed-method design, the findings demonstrated consistent and meaningful differences across the four dichotomies. Extraverts scored higher in oral communication, while introverts excelled in written performance. Sensing learners consistently outperformed intuitive learners in both oral and written tasks, reflecting their preference for detail and accuracy. Feeling learners, contrary to some prior studies, achieved significantly higher scores in oral performance compared to thinking learners, whereas thinking learners excelled in written tasks requiring analytical reasoning. Finally, judging learners achieved stronger results than perceiving learners across both oral and written assessments, emphasizing the value of structured learning habits.

Effect sizes ranging from 0.38 to 0.56 suggest that MBTI traits exert a moderate but reliable influence on second language outcomes. Qualitative findings supported these results, with classroom observations showing that learners' behaviors and participation patterns aligned with their personality profiles.

From a pedagogical perspective, these findings highlight the importance of personality-informed teaching strategies. Teachers can design more adaptive approaches by assigning oral tasks that engage extraverts and feeling learners, and written or accuracy-based assignments for introverts, sensing, and thinking learners. Judging learners benefit from structured schedules, while perceiving learners may require more guided deadlines and digital scaffolding. Digital pedagogy tools, such as adaptive platforms and collaborative apps, can further personalize instruction to accommodate personality differences.

In conclusion, MBTI personality dimensions represent a valuable lens for understanding learner diversity in vocational Chinese education. While not deterministic, personality traits significantly shape performance and behavior. Future research should extend this work by exploring longitudinal effects, cross-institutional comparisons, and the integration of artificial intelligence in adaptive language learning.

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