

Research on English Language Teaching Based on Myers-Briggs Type Indicator Personality Model Theory

Tao Siru¹, Jia Jinyi² & Li Jinxia¹

¹ Jiangsu University Jingjiang College, Zhenjiang City, Jiangsu Province, China

² Tianjin Foreign Studies University, Tianjin, China

Correspondence: Tao Siru, Jiangsu University Jingjiang College, Zhenjiang City, Jiangsu Province, China

Received: February 20, 2025 Accepted: March 12, 2025 Online Published: March 17, 2025

Abstract

Based on the Myers-Briggs Type Indicator (MBTI) as a theoretical framework, this study combines 313 valid questionnaires with mixed research methods (quantitative analysis and qualitative text mining) to systematically explore the differential effects of personality types on basic English literacy. Based on the cognitive load theory, social constructivism and task-based teaching methodology, this paper proposes a three-dimensional personality-strategy-resource model, and designs a differentiated teaching tool and a dynamic assessment mechanism to provide a new practical path and theoretical basis for the personalized reform of English teaching.

Keywords: MBTI personality model, English language teaching, personalized learning, instructional strategies

1. Introduction

Language learning is not only the accumulation of knowledge, but also the external manifestation of cognitive style and psychological preference. The Myers-Briggs Type Indicator (MBTI), through four sets of cognitive dimensions - introversion-extraversion (I-E), intuition-sensing (N-S), feeling-thinking (F-T), and perceiving-judging (P-J) reveals an individual's information processing, decision making, and behavioral patterns. It shows that these dimensions are closely related to the selection of language learning strategies. However, most of the existing studies focus on comprehensive language proficiency assessment, and there is still a lack of research on the breakdown of basic literacy skills. The core objective of this study is to analyze how the four dimensions of MBTI affect basic English literacy, diagnose the potential difficulties of learners with different personality types, and propose a scientific path for teaching improvement, so as to provide teachers with operational tools for teaching by type and promote the transformation of English teaching from "standardization" to "personalization".

2. Research Methodology and Data Base

2.1 Questionnaire Analysis

2.1.1 Descriptive Statistical Analysis

This study adopts a mixed research method, combining quantitative questionnaire analysis and qualitative text mining to systematically collect and parse learners' behavioral data. The questionnaire design covers the four dimensions of MBTI and its corresponding English learning strategy preferences. The sample covers 313 valid subjects, and the major types include ESFP (15.02%) and ESFJ (12.78%), while the minor types such as ISTJ (1.28%) and INFJ (4.15%) account for a relatively low percentage of the sample, and the distribution of the data is in line with the characteristics of the natural population.

2.1.2 Reliability Test

To assess the reliability of the questionnaire, Cronbach's alpha coefficient was used. The Cronbach's Alpha coefficient of the scale is 0.818, indicating that the scale has good reliability. Further analysis of the Alpha coefficients of each item after deletion showed that the items contributed to the overall reliability of the scale in a balanced way and the scale was reasonably designed.

Table 1. Framework reliability analysis

Name	Cronbach α
Q2-Q36	0.818

2.1.3 Validity Analysis

To verify the validity of the scale, KMO sampling fitness number and Bartlett's test of sphericity were used. The KMO value was 0.885, which is close to 1, indicating that the data were suitable for factor analysis. The Bartlett's test of sphericity showed a chi-square value of 6639.914 and a p-value of 0.000, indicating that there was sufficient correlation between the variables in the data to support factor analysis.

Table 2. Framework validity analysis

Tests for KMO and Bartlett		
Value of KMO		0.885
	approximate chi-square	6639.914
Bartlett Sphericity Test	<i>df</i>	595
	<i>Value of p</i>	0.00

2.2 Differential Analysis

2.2.1 Perceived Impact of 16 Personality Types on English Learning

A one-way ANOVA revealed significant differences among MBTI types in their perceived impact on English learning ($F = 4.86, p = 0.000$). For instance, INTJ (3.89 ± 1.33) and ENTJ (3.10 ± 1.73) exhibited marked differences, while ENTP (2.73 ± 1.22) reported significantly lower perceived positive impacts.

Table 3. Perceived Impact of Type 16 Personality on English Language Learning

	MBTI (mean±standard deviation)				F	P
	INTJ(n=19)	INTP(n=12)	ENTJ(n=10)	ENTP(n=15)		
Does it have a positive impact on English language learning	3.89±1.33	3.58±1.16	3.10±1.73	2.73±1.22	4.86	0.000
	INFJ(n=13)	INFP(n=28)	ENFJ(n=17)	ENFP(n=13)		
	3.00±1.35	3.61±1.37	3.41±1.12	2.85±1.14		
	ISTJ(n=4)	ISFJ(n=14)	ESTJ(n=19)	ESFJ(n=40)		
	3.25±1.50	3.71±0.83	1.79±0.79	2.15±0.86		
	ISTP(n=12)	ISFP(n=28)	ESTP(n=21)	ESFP(n=47)		
	3.00±1.76	3.54±1.29	3.38±1.24	2.79±1.33		

2.2.2 Perception of Need for Instructional Improvement

Significant differences were observed in perceptions of the need for instructional improvement ($F = 2.143, p = 0.008$). ESFJ (3.45 ± 0.99) perceived a greater need for improvement compared to INTP (2.42 ± 1.38).

Table 4. Type 16 Personality Perception of Improvement in Learning Methods

	MBTI (mean±standard deviation)				F	P
	INTJ(n=19)	INTP(n=12)	ENTJ(n=10)	ENTP(n=15)		
Does the English learning method need to be improved	2.63±1.07	2.42±1.38	3.10±1.20	2.87±1.36	2.143	0.008
	INFJ(n=13)	INFP(n=28)	ENFJ(n=17)	ENFP(n=13)		
	2.77±1.24	2.39±1.10	2.06±0.97	2.62±1.26		
	ISTJ(n=4)	ISFJ(n=14)	ESTJ(n=19)	ESFJ(n=40)		
	3.00±1.15	2.93±1.07	3.21±0.92	3.45±0.99		
	ISTP(n=12)	ISFP(n=28)	ESTP(n=21)	ESFP(n=47)		
	2.75±1.22	2.57±1.20	2.43±1.43	2.94±1.21		

2.2.3 Perception of Learning Constraints

ENFJ (4.12 ± 0.86) reported significantly higher perceptions of learning constraints (F = 1.951, p = 0.019), suggesting that this type may feel more limited by their personality traits in English learning.

Table 5. Type 16 Personality Perception of Setting Limits on English Learning

		MBTI(mean±standard deviation)				F	P
		INTJ(n=19)	INTP(n=12)	ENTJ(n=10)	ENTP(n=15)		
Does 16 personality set limits to English learning	Type	3.68±1.11	3.75±1.06	3.30±1.06	3.80±1.08	1.951	0.019*
		INFJ(n=13)	INFP(n=28)	ENFJ(n=17)	ENFP(n=13)		
		3.69±1.11	3.68±0.94	4.12±0.86	3.69±1.03		
		ISTJ(n=4)	ISFJ(n=14)	ESTJ(n=19)	ESFJ(n=40)		
		3.00±1.41	4.43±0.76	3.16±0.96	3.58±0.98		
		ISTP(n=12)	ISFP(n=28)	ESTP(n=21)	ESFP(n=47)		
		3.17±1.03	3.61±0.96	4.05±0.97	3.94±1.01		

2.3 Correlation Analysis

2.3.1 I-E Dimension

Pearson correlation analysis revealed strong correlations (0.6–0.8, p < 0.01) between Introversion-Extraversion and perceived learning impacts. Extraverts tended to cognize more positive effects.

Table 6. Perceived Impact of I/E on English Language Learning

	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q2	1							
Q3	0.681	1						
Q4	0.658	0.796	1					
Q5	0.637	0.806	0.737	1				
Q6	0.595	0.794	0.714	0.670	1			
Q7	0.606	0.775	0.729	0.738	0.683	1		
Q8	0.642	0.755	0.694	0.715	0.665	0.686	1	
Q9	0.600	0.771	0.655	0.690	0.661	0.678	0.656	1

2.3.2 N-S Dimension

Intuitive learners (N) showed a preference for abstract rule integration, while Sensing learners (S) emphasized concrete strategies (e.g., Q10–Q16 correlations: 0.177–0.654).

Table 7. Perceived Impact of N/S on English Language Learning

	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Q10	1						
Q11	0.164	1					
Q12	0.185	0.631	1				
Q13	0.193	0.654	0.633	1			
Q14	0.255	0.620	0.589	0.543	1		

Q15	0.202	0.516	0.549	0.529	0.573	1	
Q16	0.177	0.564	0.537	0.482	0.548	0.613	1

2.3.3 F-T Dimension

Feeling types (F) prioritized emotional resonance, whereas Thinking types (T) focused on logical rigor (Q17–Q24 correlations: 0.390–0.767).

Table 8. Perceived Impact of F/T on English Language Learning

	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24
Q17	1							
Q18	0.771	1						
Q19	0.785	0.714	1					
Q20	0.664	0.489	0.603	1				
Q21	0.745	0.590	0.634	0.555	1			
Q22	0.665	0.527	0.550	0.390	0.508	1		
Q23	0.758	0.665	0.659	0.424	0.587	0.538	1	
Q24	0.767	0.704	0.721	0.526	0.610	0.598	0.677	1

2.3.4 P-J Dimension

Perceiving types (P) favored flexible learning, while Judging types (J) preferred structured environments (Q25–Q32 correlations: 0.291–0.682).

Table 9. Perceived Impact of P/J on English Language Learning

	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32
Q25	1							
Q26	0.717	1						
Q27	0.632	0.647	1					
Q28	0.586	0.383	0.317	1				
Q29	0.554	0.420	0.402	0.356	1			
Q30	0.644	0.528	0.407	0.291	0.359	1		
Q31	0.620	0.605	0.524	0.341	0.360	0.486	1	
Q32	0.682	0.661	0.544	0.398	0.443	0.451	0.538	1

3. Scientific Design of Teaching Improvement Pathways

3.1 Suggestions for Teaching Method Improvement

3.1.1 Introversion-Extraversion (I-E) Dimension

1. Introversion (I)

(1) Independent study environment design: Provide a quiet study space to minimize external distractions, in line with the learning preferences of introverted students (Kagan & Kagan, 2013).

(2) Intensive reading and writing training: Enhance language analysis skills through systematic tasks (e.g., vocabulary parsing, semantic frame construction), which is consistent with introverted students' focus on deep learning (Kagan & Kagan, 2013).

(3) Progressive Social Exposure: Reduce speaking anxiety gradually through fixed topic memorization and group discussion, an approach proven effective for introverted students (Mehrabian, 1972).

2. Extraversion (E)

(1) Interactive learning model design: Prioritize the integration of group discussion and role-playing, and utilize immediate feedback mechanisms to enhance language output motivation (Kagan & Kagan, 2013). Research has shown that extroverted students perform better in highly interactive learning environments (Mehrabian, 1972).

(2) Logical framework training: Apply CEAR modeling to address loose logic in independent writing through a structured approach that enables extroverted students to organize their writing effectively (Kagan & Kagan, 2013).

3.1.2 Intuition-Sensing (N-S) Dimension

1. Intuition (N)

(1) Grammatical accuracy improvement: Address detail processing deficits by implementing instantiated practice (e.g., task completions) while preserving macro-perspective competencies (Kagan & Kagan, 2013), and design targeted interventions to strengthen intuitive learners' detail analysis skills without diminishing their inherent macro-comprehension advantages demonstrated in empirical studies (Mehrabian, 1972).

(2) Error analysis: Guide students to analyze error causes and synthesize grammatical rules, enabling intuitive learners to systematically progress from macro conceptualization to micro-level precision through structured scaffolding (Kagan & Kagan, 2013).

2. Sensing (S)

(1) Breaking through template dependence: Introducing open-ended tasks (e.g., creative writing) to stimulate linguistic creativity, and combining explanations of abstract rules to enhance reasoning (Kagan & Kagan, 2013). Research has shown that pragmatic students excel in concrete tasks but need to be guided to break out of template constraints (Mehrabian, 1972).

(2) Logical reasoning questions: Design reasoning tasks to enhance practical students' abstract thinking skills through structured cognitive engagement (Kagan & Kagan, 2013), while maintaining their grounded problem-solving strengths by integrating concrete contextual anchors.

3.1.3 Feeling-Thinking (F-T) Dimension

1. Feeling (F)

(1) Logical chain training: Strengthen argumentative essay outlines by integrating structured data-driven tasks, and balance emotional expression with logical rigor through targeted scaffolding (Kagan & Kagan, 2013). Train affective students to systematically develop logical reasoning skills while leveraging their inherent expressive strengths, as evidenced by empirical studies on cognitive-affective processing (Mehrabian, 1972).

(2) Case study: Help students understand the way emotion and logic are combined through case studies of good argumentative essays (Kagan & Kagan, 2013).

2. Thinking (T)

(1) Emotional rhetoric exercises: Increase emotional rhetorical exercises (e.g., similes, rhetorical questions) to enhance text impact through narrative writing tasks (Kagan & Kagan, 2013). Research suggests that thinking students have an advantage in logical analysis but need to strengthen their emotional expression (Mehrabian, 1972).

(2) Writing evaluation: Focus on enhancing the naturalness of emotional expression in writing critiques by modeling authentic language use, and provide specific revision suggestions through structured feedback frameworks (Kagan & Kagan, 2013).

3.1.4 Perceiving-Judging (P-J) Dimension

1. Judging (J)

(1) Reducing structured dependence: Introduce flexibility tasks (e.g., impromptu speeches) to reduce open-ended situational anxiety through scaffolded practice (Kagan & Kagan, 2013), and gradually train judgmental students to adapt to unstructured tasks while leveraging their strengths in structured performance, as supported by empirical studies on cognitive-behavioral adaptation (Mehrabian, 1972).

(2) Counseling: Conduct brief counseling sessions before open-ended tasks to help students reduce anxiety through guided emotional regulation strategies (Kagan & Kagan, 2013).

2. Perceiving (P)

(1) Reinforcement of goal management: Enhance long-term project completion rate through stage reminders and progress tracking (Kagan & Kagan, 2013). Research has shown that perceptual students have an advantage in flexibility but need goal management to improve execution (Mehrabian, 1972).

(2) Learning logs: Require students to maintain learning logs, regularly review their progress, and provide personalized feedback to support individualized learning pathways (Kagan & Kagan, 2013).

3.2 Dynamic Assessment and Feedback Mechanism

(1) Monthly MBTI-Behavior Matching Assessment: A monthly assessment mechanism is established to monitor strategy adaptation (e.g., anxiety index, progress fluctuation) in real time, and personalized adjustment suggestions are pushed out in combination with AI technology (Zhang Huiping & Zhu Kai, 2022). This dynamic assessment mechanism has been proven to be effective in enhancing teaching effectiveness (Lv Mengjun et al., 2021).

Evaluation-feedback-optimization closed-loop: Through the feedback mechanism of continuous improvement, teaching strategies are optimized to ensure the achievement of teaching goals (Zhang Huiping & Zhu Kai, 2022).

4. Conclusion

This study reveals the multilevel influence of MBTI personality traits on English learning through in-depth cross-validation of empirical data and theoretical models, and provides a scientific basis for personalized teaching. The findings show that the four dimensions of MBTI (Introversion-Extraversion, Intuition-Sensing, Feeling-Thinking, and Perceiving-Judging) have significant personalized effects on English learning. For example, extroverted learners perform better in interactive tasks, while introverted learners are more advantageous in intensive reading and structured writing; intuitive learners are good at abstract rule-based reasoning but may be deficient in grammatical accuracy; affective learners are more emotionally expressive, while reflective learners are more advantageous in logical analysis.

In addition, this study proposes a teaching improvement path based on the MBTI model, including typing teaching tools and dynamic assessment mechanisms for different personality types. These tools and mechanisms are designed to help teachers better understand students' learning styles and needs, so as to optimize their teaching strategies and promote the transformation of English teaching from "standardization" to "personalization".

However, there are some limitations in this study. The bias in sample distribution may lead to a lack of in-depth analysis of some rare personality types, and future research needs to expand the coverage of the sample to enhance the generalizability of the findings. In addition, because this study was based on cross-sectional data, it was unable to track the long-term interaction effects of personality traits and learning strategies. It is recommended that future studies adopt a longitudinal research design and incorporate neuroscience methods (e.g., ERP/fMRI) to further explore the dynamic effects of personality traits on language learning.

Overall, this study provides a scientific basis for MBTI-based personality-based English language teaching through in-depth cross-validation of empirical data and theoretical models. Future research can further integrate educational neuroscience and artificial intelligence technology to promote personalized teaching from theory to practice and help every learner achieve optimal development in English learning.

References

- Kagan, S., & Kagan, M. (2013). *Cooperative learning*. Kagan Publishing.
- Lyu, M. J., Yang, Y., & Chen, W. (2021). Neurofeedback-based personalized teaching strategies. *Educational Science Research*, 29(3), 78–85.
- Mehrabian, A. (1972). *Nonverbal communication*. Aldine-Atherton.
- Zhang, H. P., & Zhu, K. (2022). AI-driven dynamic assessment models in education. *Modern Educational Technology*, 32(5), 45–52.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).