

Evaluation of Chinese Learning Efficiency of International Students in China: Comparing by Dimension

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This paper introduces the Value Engineering method to calculate the value coefficient of Chinese learning efficiency for 377 international students by dimension. Results suggest that attention should be paid to male, European and American, rural, introverted, and “work or education needs” international students; Give full play to the driving role of the reference-type, explore the space for improving the learning efficiency of the improvement-type and attention-type, and pay attention to the problems of problem-type international students.

Keywords: international students in China, evaluation of Chinese learning efficiency, value engineering, learning engagement, learning performance

Introduction

Currently, language teaching and research focus more on learning outcomes, outputs, or performance, while neglecting the issue of learning efficiency. Factually, learning performance is a result that reflects the learning quantity, while learning efficiency is a process that better reflects learning quality. Learning performance does not necessarily reflect high learning efficiency. This paper focuses on the learning efficiency of international students rather than their academic performance. We attempt to introduce the widely used Value Engineering methods from other disciplines into linguistics, and investigate the main learning input and performance factors of Chinese students studying in China. The value coefficient of Chinese learning efficiency is calculated, and the Chinese learning efficiency of Chinese students studying in China is analyzed by dimension.

Value Engineering (VE) was introduced into Chinese Mainland from Japan in the late 1970s and gradually popularized. VE is a thinking method and management technique aimed at improving the value of research objects through systematic analysis of their functions and costs through cooperation in various related fields, constantly innovating. VE has been widely applied in various fields such as tourism, education, management, and economics (Zhang Caijiang et al., 2020), and has formed a normative theory and tool in value evaluation.

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The basic expression for VE is $V = F / C$. Among them, C represents cost, reflecting the cost incurred to achieve product output. F represents function, reflecting the output created after providing production factors and other resources. V represents value, which reflects the ratio of the product output of a production activity to the resource input required to carry out the activity, i.e. production efficiency. The basic expression of VE provides a scientific standard for product value evaluation, which can explore the rationality of function and cost configuration, and achieve cost minimization through evaluation results. Language learning efficiency is the proportional relationship between language learning performance and the corresponding learning investment required to achieve this performance. Hence, theoretically, it is feasible to use VE for evaluating language learning efficiency.

Research Design

The VE Model of Chinese Learning Efficiency

According to the VE paradigm, construct a Chinese learning efficiency evaluation model, as shown in equation (1):

$$V = \frac{P}{C} = \frac{\sum_{k=1}^n \alpha_{ik} p_k}{\sum_{t=1}^m \omega_{jt} c_t} \quad (1)$$

In equation (1), i 、 j (both integers greater than 1) represent the number of total performance P , secondary indicators of total cost C , respectively. P is the comprehensive function of n types of learning performance generated by a certain international student after investing various learning resources; C is the comprehensive cost of C types of resources invested by the international student to achieve the established learning objectives.

Efficiency Evaluation Indicators

(1). Learning engagement indicator system

This paper divides learning engagement into two secondary indicators: physical investment and emotional investment. Physical investment includes both cost investment and behavioral investment. Cost investment refers to the additional expenses incurred for learning Chinese in the current academic year, which are not general school fees. Behavioral investment includes the time and cost investment in learning Chinese, and these are extracurricular investments that differ from the common investment in class. Emotional investment includes the vitality, dedication, and level of focus in the process of learning Chinese, which are the three dimensions of the UWES-S scale.

(2). Learning performance indicator system

This paper divides learning performance into two secondary indicators: test taking ability and application ability, corresponding to theoretical and practical abilities, respectively. Among them, test taking ability includes grades in Chinese major courses and basic courses; Application skills include social communication skills, language expression skills, and social practice skills.

Samples and Data

The research subjects are 2019 international students from Z University, H University, and J University in Guangzhou, Guangdong Province. International students who enrolled in September 2019 and graduated in June 2023 under a four-year full-time learning model were investigated. Due to data availability, this paper only investigated the Chinese learning status of international students in the academic year 2021-2022 (i.e. their third year of college). The questionnaires were implemented in September 2022, and 415 questionnaires were distributed. A total of 377 valid samples were obtained, with an effective rate of 90.84%.

Empirical Results

Group Statistics Results

This paper groups the entire sample into five levels: gender, intercontinental attributes, urban-rural attributes, personality, and learning objectives, to understand the differences in Chinese learning efficiency from different dimensions. The statistical results are shown in Table 1.

Table 1
Distribution of Value Coefficients Grouped by Personal Information Dimension

Dimension		Mean value coefficient	V>1 (%)	V<1 (%)
Gender	Male	1.1490	17.24	17.77
	Female	1.1808	41.64	23.34
Intercontinental attributes	Asia	1.1820	43.24	31.56
	Africa	1.1803	12.20	5.57
	Europe and America, etc	0.6949	3.18	4.24
Urban-rural attributes	town	1.1898	27.32	16.18
	countryside	1.1652	31.83	24.67
	export-oriented	1.1937	20.16	7.16
Personality	neutral	1.1959	33.95	28.12
	Introverted type	1.0392	4.77	5.84
	Understand China	1.1820	46.15	24.40
Learning objectives	For work or further education	1.1059	11.41	14.32
	Dealing with exams	1.2657	1.33	2.39

Table 1 reflects the differences in Chinese learning efficiency from different dimensions of personal information. Specifically, (1) female international students have a higher efficiency than male students. (2) Asian students have relatively good efficiency. There is a negative correlation between language distance and language acquisition. International students from Asia have a smaller language distance between their mother tongue or first language and Chinese, which undoubtedly gives them certain advantages compared to European and American students of the Indo European language family (Cui Meng et al., 2018). (3) International students from urban areas have higher efficiency. (4) International students with extroverted and neutral personalities generally have higher efficiency in learning Chinese, with the former having significant advantages. In contrast, the value coefficient of introverted international students is significantly lower than the first two. (5) Learning Chinese due to being attracted by Chinese culture has significantly improved the learning efficiency compared to international students who aspire to work or study Chinese in the future.

Analysis of Balance in Learning Efficiency

There are four distribution patterns of “investment--performance” among international students, corresponding to four different learning efficiencies, resulting in an imbalance in learning efficiency. Namely (low investment, high performance), (high investment, high performance), (low investment, low performance), and (high investment, low performance). This paper names the four types of international students corresponding to the balance of learning efficiency, namely, reference-type, improvement-type, attention-type, and problem-type. Among them, the learning efficiency of reference-type students is the highest, and their learning process can provide reference for other students; For improvement-type students, attention should be paid to the portion of their learning investment that is wasted or the learning performance that may still be improved; Attention-type students may have lower learning performance, but their learning efficiency may be moderate, so it is important to focus on their learning engagement; The biggest problem is problem-type students, and we should always care about their learning methods.

Conclusion

This paper conducted a survey on the investment and learning performance of international students studying Chinese in three universities in Guangzhou. Using the VE method, the evaluation was conducted from five dimensions: gender, intercontinental attributes, urban-rural attributes, personality, and learning objectives, in order to provide some insights for the Chinese learning of international students studying in China.

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