

# Research on the Construction of a Value-Added Evaluation Indicator System for Vocational English

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**Abstract:** *The construction of a value-added evaluation indicator system for vocational English is crucial for measuring the effectiveness of teaching and learning processes. This paper aims to explore the indicators for constructing such a system, which can provide a comprehensive assessment of student progress and the impact of educational interventions. The study draws on educational theories to propose a set of indicators that can be used to evaluate the added value of vocational English teaching and puts forward procedures of applying it to practice.*

**Keywords:** Value-added evaluation, Vocational English teaching, Evaluation indicator system.

## 1. Introduction

Vocational English education plays a significant role in preparing students for the workforce by equipping them with practical language skills. A value-added evaluation system is essential for assessing the effectiveness of teaching methods and the progress of students beyond mere test scores. This paper discusses the importance of developing a comprehensive evaluation system and proposes a set of indicators that can be used to measure the value added by vocational English teaching.

## 2. Literature Review

Value-Added Evaluation (VAE) has emerged as a significant approach in educational assessment, focusing on the growth of students over time rather than their absolute performance. Value-Added Evaluation (VAE) in English teaching has been a subject of growing interest in educational research. This literature review explores the current state of VAE in English language education, focusing on its methodologies, implications, and challenges.

This review synthesizes key findings from the literature on VAE, highlighting its origins, development, and applications in various educational contexts.

### 2.1 Origins and Development

VAE originated from economic production function models, where inputs and outputs are measured to evaluate efficiency. The concept was later adapted to education to measure the impact of schools and teachers on student achievement. The Coleman Report of 1966 marked an early milestone in its development. Sanders and Horn's work on the Tennessee Value-Added Assessment System (TVAAS) is a seminal study in this field, introducing mixed-model methodology in educational assessment. The UK's development of VAE, based on government accountability mechanisms, has been influential worldwide [1]. Internationally, VAE has been implemented with various methodological adaptations, highlighting the need for standardized reporting and evaluation methods.

### 2.2 Applications in Education

Value-added evaluation was first introduced in the United States as a measure of teacher effectiveness in improving student achievement. It has since been adopted globally as a tool for evaluating educational quality. VAE has been widely applied to evaluate the quality of teaching in higher vocational colleges, as well as in K-12 education systems [2]. It has been used to assess teacher effectiveness, school performance, and student progress over time. The TVAAS database has provided significant insights into educational evaluation and research. In the context of English teaching, VAE measures student progress in learning the language over time, focusing on growth rather than absolute performance.

### 2.3 Impact on Teachers, Schools, and Students

VAE has implications for teacher accountability, school improvement, and student learning. It has been used to assess teacher effectiveness and school performance, with a focus on incremental student learning over a relatively long period. The impact of VAE on teachers, schools, and students is a central theme in current research, with a focus on its influence on educational policy and practice [3].

### 2.4 Methodological Issues

Several methodological issues have been identified in VAE. These include the choice of growth modeling techniques, the handling of missing data, and the impact of student background variables. Koedel, Mihaly, and Rockoff (2015) provide a comprehensive review of value-added modeling, highlighting its strengths and limitations. McCaffrey et al. (2003) and (2004) provide in-depth analysis on evaluating value-added models for teacher accountability and models for value-added modeling of teacher effects, respectively.

### 2.5 International Perspectives

VAE has been implemented in various countries, each with its own methodological adaptations. An international review of VAE from 26 countries underscores the diversity in approaches and the need for standardized reporting and evaluation methods. The PRISMA statement offers a framework for reporting systematic reviews and meta-analyses, which is relevant for synthesizing VAE research across different studies and settings [4].

## 2.6 Critiques and Future Directions

Critiques of VAE include concerns about its reliance on standardized test scores, potential biases in measurement, and the high-stakes consequences of VAE results for teachers and schools [5]. Future research is needed to refine VAE models, address missing data issues, and explore the long-term effects of VAE on educational outcomes.

In conclusion, VAE represents a complex and evolving field within educational assessment. It offers a promising approach to measuring educational growth and effectiveness but requires careful consideration of methodological challenges and ethical implications [6]. As the field progresses, it is crucial to continue refining VAE methods and to explore its applications in diverse educational contexts.

## 3. Evaluation Dimensions and Their Weights

Table 1 outlines a comprehensive evaluation system that includes three main dimensions: Knowledge, Ability, Intercultural Communication Skills, Critical Thinking and Innovative Thinking, Autonomous Learning Ability, Professional Competence and Ethics, and Personal Ethics. Each dimension has specific indicators and observation points, as well as different evaluation subjects such as teachers, peers, industry experts, and AI evaluation systems. This multi-dimensional, multi-subject evaluation system helps to assess students' performance and progress in vocational English teaching in a holistic manner.

**Table 1:** Value-added evaluation indicators system for vocational English [7]

Evaluation Dimension (Weight)	Evaluation Indicator (Weight)	Evaluation Observation Points	Evaluation Subject
Knowledge (15%)	Pronunciation (5%)	Clarity, accuracy, fluency, intonation, stress, linking, rhythm, etc.	Teacher Evaluation AI Evaluation
	Vocabulary (5%)	Breadth, depth, accuracy, flexibility, creativity, complexity, diversity, contextual appropriateness, collocation, etc.	AI Evaluation
	Grammar (5%)	Accuracy, complexity, diversity, consistency, completeness, coherence, punctuation, etc.	AI Evaluation
Ability (35%)	Listening (7%)	Standardized test	Teacher Evaluation Peer Evaluation Self-Evaluation Certification
	Speaking (7%)	Oral presentation	
	Reading (7%)	Standardized test	
	Writing (7%)	Standardized test	
	Translating (7%)	Standardized test	
Intercultural Communication Skills (5%)	Communicate and interact effectively in cross-cultural contexts (5%)	Cultural awareness; non-verbal communication; adaptability; cultural knowledge; awareness of own culture	Teacher Evaluation Self-Evaluation
Critical Thinking and Innovative Thinking (5%)	Analyze and solve problems, along with the development of innovative thinking (5%)	Understanding and analyzing information; identifying and generating solutions communication of ideas; learning ability; thinking capacity	Teacher Evaluation Industry Expert
Autonomous Learning Ability (10%)	Self-manage and independently acquire learning resources (10%)	Use of technology for vocabulary learning; motivational regulation strategies; goal Setting and learning evaluation; comprehensive evaluation of learning resources	Teacher Evaluation Self-Evaluation
Professional Competence and Ethics (15%)	Professional Ethics (5%)	Proactivity in class discussion Enthusiasm in class participation	Teacher Evaluation Peer Evaluation Self-Evaluation Industry Expert
	Professional Attitude (5%)	Enthusiasm for new technology Having a sense of innovation and creativity, Being able to complete learning tasks with clear thinking.	
	Professional Behavior Habits (5%)	Attendance rate Classroom discipline Exam discipline Self-directed learning ability Collaborative inquiry ability Innovative critical thinking ability	
Personal ethics (15%)	Political Literacy (5%)	Support the country and the leadership of the Party. Have a correct world view	Teacher Evaluation Peer Evaluation Self-Evaluation
	Behavioral Literacy (4%)	No plagiarism or cheating in assignments and exercises Be polite and courteous in behavior and conversation Consciously maintain environmental hygiene	
	Moral Literacy (4%)	Willing to help others, being upright and kind Diligent and hardworking, bravely undertake important learning tasks Know honor and disgrace, understand gratitude, and fulfill responsibilities	
	Psychological Literacy (2%)	Emotional and behavioral responses after failure Emotional and behavioral responses under pressure	

Knowledge constitutes 15% of the total evaluation, with sub-dimensions such as Pronunciation (5%) and Vocabulary (5%) being assessed through AI and teacher evaluations, focusing on clarity, accuracy, fluency, and other pronunciation-related aspects, as well as breadth, depth, and accuracy of vocabulary use.

Ability accounts for 35% of the evaluation, with Listening (7%), Speaking (7%), Reading (7%), Writing (7%), and

Translating (7%) skills being evaluated through standardized tests, teacher, peer, and self-evaluations, as well as certifications.

Intercultural Communication Skills make up 5% of the total weight, emphasizing the ability to communicate and interact effectively in cross-cultural contexts, evaluated through teacher and self-evaluations.

Critical Thinking and Innovative Thinking also represent 5% of the evaluation, focusing on the ability to analyze and solve problems, with teacher and industry expert evaluations.

Autonomous Learning Ability carries a weight of 10%, assessing how individuals manage their learning and acquire resources independently, with evaluations from teachers and self-assessments.

Professional Competence and Ethics contribute 15% to the evaluation, with Professional Ethics (5%), Professional Attitude (5%), and Professional Behavior Habits (5%) being evaluated through teacher, peer, self-evaluations, and industry expert insights.

Lastly, Personal Ethics encompass 15% of the evaluation, with Political Literacy (5%), Behavioral Literacy (4%), Moral Literacy (4%), and Psychological Literacy (2%) being assessed through teacher, peer, and self-evaluations.

This structured approach ensures a balanced and multifaceted evaluation, taking into account not only academic knowledge and skills but also professional ethics, personal development, and the ability to navigate in a global context.

#### 4. Procedures of Applying the above Table to Practice

The above table provides a comprehensive framework for assessing various aspects of students' progress in English learning. To figure out the added value of students' progress using this table, the following steps can be followed:

**Understand the Dimensions and Indicators:**

Familiarize yourself with each evaluation dimension and its corresponding indicators. These dimensions cover knowledge, ability, intercultural communication skills, critical thinking and innovative thinking, autonomous learning ability, professional competence and ethics, and personal ethics.

**Assign Weights:**

Each dimension has a weight that indicates its relative importance in the overall evaluation. For example, "Knowledge" has a 15% weight, while "Ability" has a 35% weight. These weights should be used to calculate the weighted scores for each dimension.

**Collect Data:**

Gather data for each evaluation indicator. This can be done through various methods such as tests, teacher observations, peer evaluations, self-evaluations, and industry expert assessments.

**Score Each Indicator:**

Score each student on each evaluation indicator. The scoring system should be consistent and aligned with the indicators. For example, for "Pronunciation," you might use a scale from 1 to 5, where 1 is poor and 5 is excellent.

**Calculate Weighted Scores:**

Multiply the score of each indicator by its weight to get the weighted score. For example, if a student scored 4 out of 5 on "Pronunciation," which has a 5% weight, the weighted score would be  $4 \times 0.05 = 0.20$

**Sum Up Weighted Scores:**

Add up the weighted scores for all indicators within each dimension to get the total score for that dimension.

**Aggregate Dimension Scores:**

Sum the total scores of all dimensions to get the overall progress score for each student.

**Track Progress Over Time:**

To figure out the added value of students' progress, track these scores over time. Compare the initial scores with subsequent scores to see improvements.

**Analyze Improvements:**

Analyze which dimensions show the most improvement and which need more attention. This can help in tailoring teaching methods and providing targeted support.

**Feedback and Adjustment:**

Use the analysis to provide feedback to students and adjust teaching strategies. For instance, if "Autonomous Learning Ability" shows less progress, introduce more self-directed learning activities.

**Reporting:**

Prepare reports that summarize the progress of individual students and the class as a whole. Highlight areas of strength and areas that require improvement.

**Continuous Improvement:**

Use the evaluation results to continuously improve the teaching and learning process. Adjust the weights if necessary, based on the curriculum's evolving focus or educational goals.

By following these steps, teachers can effectively use the "value-added evaluation indicators system for vocational English" table to measure and enhance the added value of students' progress in English learning. This approach not only assesses students' current abilities but also guides their development towards achieving higher proficiency in English.

#### 5. Conclusion

A value-added evaluation system provides a more accurate measure of student progress by accounting for prior knowledge and skills. This allows for a more nuanced understanding of how effectively educational interventions are working, leading to improved learning outcomes. The construction of a value-added evaluation system for

vocational English is a complex but necessary task. By focusing on a set of well-defined indicators, educational institutions can better assess the effectiveness of their programs and make data-driven decisions to improve teaching and learning outcomes.

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