

English Teaching Objectives from the Perspective of Bloom's Cognitive Domain: A Case Study of Yuxi Normal University, China

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Abstract:

The implementation of any educational course activities starts from the setting of teaching objectives because teaching objectives can guide the design and development of teaching activities. Bloom's Taxonomy of educational objectives as the internal basis of teaching practice provides educators a reliable theoretical foundation for goal setting. The study aims to explore an effective teaching process of college English course in Yuxi Normal University (YXNU) of China. The objectives of college English course were revised based on Bloom's cognitive learning domain and categorized into three high-level objectives which are analyzing, evaluating, and creating to provide some reference for curriculum decision-makers and teachers. Qualitative method of an exploratory study of systematic literature review method is adopted to build up a theoretical framework to understand the Bloom's Taxonomy application. Then, a case analysis method is used to examine college English teaching objectives of YXNU and then they have been revised. The study found that the revised teaching objectives of college English course in YXNU are more deeply integrated with actual teaching target cases and more scientific. Moreover, the theoretical framework of Bloom's cognitive learning objectives is reflected in the teaching objectives of college English in YXNU. Educators should give consideration to the realization of teaching objectives at all levels especially the high-order objectives to achieve the teaching objectives and also Bloom's Taxonomy of educational objectives can implicate in other subjects.

Keywords: Bloom's Taxonomy, cognitive domain , educational objectives , instruction, English course

Introduction

Instruction is a complicated and multiple-sided process in which policy-makers, coordinators, teachers, students, and even parents need to work together. Russell & Airasian (2012, p. 58) mentioned three fundamental procedures in the teaching process, namely, planning teaching, teaching and evaluating students' results. Assessment and teacher decision-making are involved at every stage of the teaching process. Practical, reasonable, and feasible objectives can guide these steps and lead to successful teaching and learning. Goals indicate the achievements and dreams that people want to achieve. They enable people to focus their attention and efforts on what they want to accomplish. Therefore, goal setting is of great significance in all human activities. In education, goals are the expression of teachers' requirements for students to learn and master; they are "explicit formulations of the ways in which students are expected to be changed by the educative process" (Bloom, 1956, p.

26) and describe the knowledge content, life skills and behavioral changes that students need to acquire after teaching. Russell & Airasian (2012, p. 65) stated that the importance of teaching objectives also lies in the purposeful and normative characteristics of teaching activities. The purpose of teaching is reflected in that the teaching activities of teachers are carried out intentionally and they hope that students can learn something and achieve something. The standardization of teaching is reflected in the value of learning content, and the knowledge and skills taught by teachers are worth learning by students. Therefore, it is critical to determine the teaching objectives in the course teaching to make teachers have a clear understanding of the student's learning objectives. Teaching objectives are closely and logically related to the name Benjamin Bloom, because when setting up teaching objectives, most instructors refer to Bloom's Taxonomy. Bloom and his followers offered instructors a handy and feasible approach to consider different learning styles and accurately formulate corresponding learning goals based on the differences of these learning styles. It has a fundamental guiding significance to the setting of curriculum educational objectives.

In recent years, much research has focused on the analysis and application of Bloom's Taxonomy, primarily the cognitive domain. However, most of these studies mainly put forward the macroscopic models of teaching objectives for programs. However, researchers analyzed the exam questions or classroom question types according to Bloom's Taxonomy.

It remains unclear about how to revise a specific set of teaching objectives of a curriculum using the cognitive domain objectives (Dettmer, 2005). Thus, the purpose of this study is to reconsider the English program's teaching objectives based on Bloom's cognitive domain's theoretical framework to make these objectives more practical and useful. Russell & Airasian (2012, p. 93) argued that when

making the curriculum plan, both students and teachers should be clear about their learning and teaching objectives and outcomes. This is the only way providing clear direction to the students in the result students can achieve their goals and teaching and evaluation can be meaningful (Shephard, 2008). This paper focuses on the classification of goals in the cognitive field to critically analyze, revise and improve the teaching objectives of college English courses of YXNU.

By revising and improving, these objectives can also be more theory-based and content-rich. The findings of this study can provide more theoretical reference to decision-makers, and instructors and learners can fully comprehend the course and master the learning content. What's more, instructors can assess teaching and learning performance during instruction with these educational objectives.

Literature Review

Referring to the database of Scopus, Web of Science and CNKI, it is clear that the studies of Bloom Taxonomy have lasted for several decades. The earliest research can be dated back to the 1960s. By combining these results, this literature review revolves around three main aspects, and they are Bloom's Taxonomy of learning domains, the comparison between the original and revised Bloom's Taxonomy and the application of Bloom's Taxonomy of cognitive learning domain in the context of China.

Bloom's Taxonomy of Learning Domains

Benjamin S. Bloom (1956) created a taxonomy of learning or Bloom's Taxonomy of educational objectives and he designed these educational goals as a set of three hierarchical models. It breaks learning objectives down into three domains: cognitive, affective and psychomotor and shows the complexity and particularity of educational goals (Forehand, 2010; Köksal, D. & Ulum, 2018). These three domains are in correspondence with the three general types of human behaviors of classroom assessment and commonly known as knowledge, attitudes, and skills (Crede & Kuncel, 2008). Bloom's taxonomy has caused enormous repercussions all over the world (Russell & Airasian, 2012, p. 53). Anderson et al., (2001) notably contributed to the taxonomy and have attempted to fill in the gaps within each of the three learning domains, categories are ordered in a hierarchy of less to more complex. An essential premise is that only after completing the current stage of learning and reaching the standards and levels set by teaching can students begin the next stage of learning. Bloom (1956) introduced six cognitive goals in the taxonomy of educational objectives: Cognitive Domain. Arranged in a simple to complex order, the goals involve knowledge, comprehension, application, analysis, synthesis, and evaluation. The lower goals are mainly the knowledge level, the higher goals are the intelligence skill level. Figure 1 shows the six levels in forms of nouns and explanations of these terms. There is misconception and misunderstanding found in different school of thought about the structuring of Bloom's taxonomy. Bloom has order

evaluation and synthesis in higher thinking order or on the top of the pyramid and knowledge in the bottom or lower thinking order. However, the curriculum expert having misconception while ordering and they give important to the higher order only and lower order is often neglected where the degree of knowledge is keenly important (Akande-Sholabi et al., 2019).

The specific knowledge, program pattern and related concepts of a certain discipline contained in the cognitive domain goals all promote the development of students' intelligence, ability and skills. In traditional education, cognitive goals are often used to construct curriculum learning goals, evaluate students' performance and design classroom activities. Therefore, the target of cognitive category has become the focus of teachers' attention and the theoretical basis for teachers to make decisions.

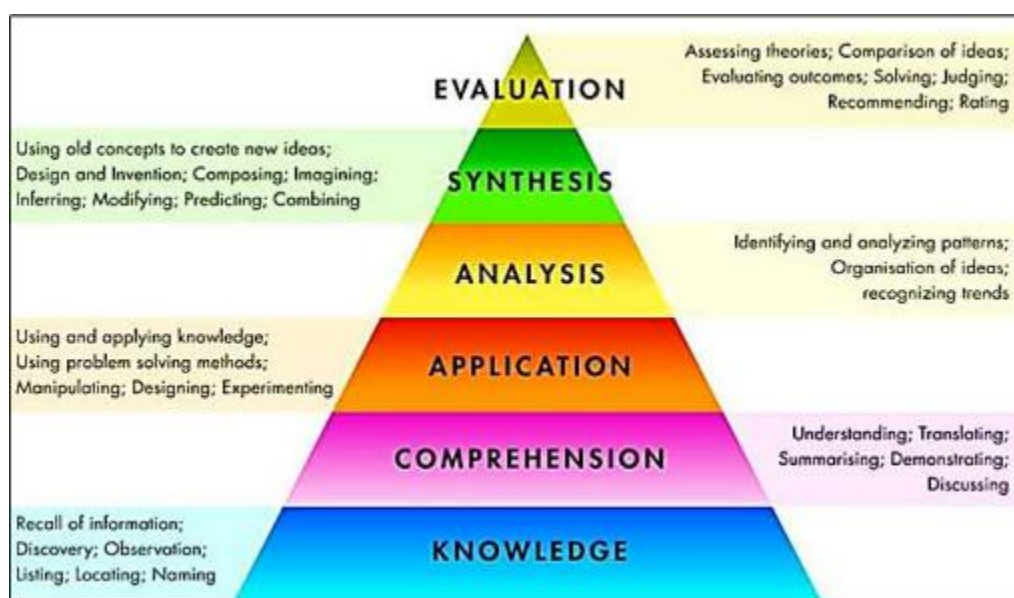


Figure 1. Bloom's Taxonomy of Cognitive Learning Domain (Krathwohl, 2002)

Krathwohl, Bloom & Masia (1964) has revised the cognitive domain goals of Bloom's taxonomy however, Anderson et al. (2001) suggested three main changes in the new version of cognitive domain objectives: the names of category have become verb forms, with a certain dynamic; the order of the categories has been adjusted; the process and hierarchy of knowledge matrix are added. These changes can be seen in Figure 2. The revised version by Anderson and Krathwohl presents the thinking process of students to a certain extent, which is active and vivid, making people more dynamic in senses and more accurate in expression. The affective domain, or the field of emotion is about people's thoughts and ways of dealing with emotional things (Krathwohl, Bloom & Masia, 1964). Emotional domain goals still fall into six categories: emotions, values, appreciation, passion, motivation, and attitudes in order of the degree to which people think about an object or activity. The third domain is the psychomotor domain. It is clear that the term psychomotor is a

compound word that include both spiritual and athletic meanings. Huang, Chang & Chou (2020) believed that psychomotor field was mainly related to skills, including physical coordination ability, motor level and the use of motor skills. These skills can only be acquired and mastered through repeated practice, and measured in terms of speed, accuracy, distance, procedures, or techniques in execution. Studies stressed that psychomotor skills are essentially important for success of the students in future therefore various methods of teaching are recommended to promote psychomotor skills in students (Baharom et al., 2015; Cooper & Higgins, 2015; Salim et al., 2012). Dave (1970) divided these physical skills and abilities into five hierarchy, and they are imitation, manipulation, precision, clarity and naturalization.

Bloom's Taxonomy 1956 Vs Anderson and Krathwohl taxonomy 2001

Bloom's taxonomy of educational objectives is first time presented by Benjamin Bloom in 1956. Lorin Anderson and David Krathwohl (2001) redefined the original work of Bloom's taxonomy based on their expertise in the subject of psychology, education, curriculum and assessment and the redefined work is known as Anderson and Krathwohl taxonomy 2001 or revised Bloom's taxonomy. Figure 2 is drawn by Wilson (2016) after critically analyzed the Bloom's original taxonomy and revised taxonomy.

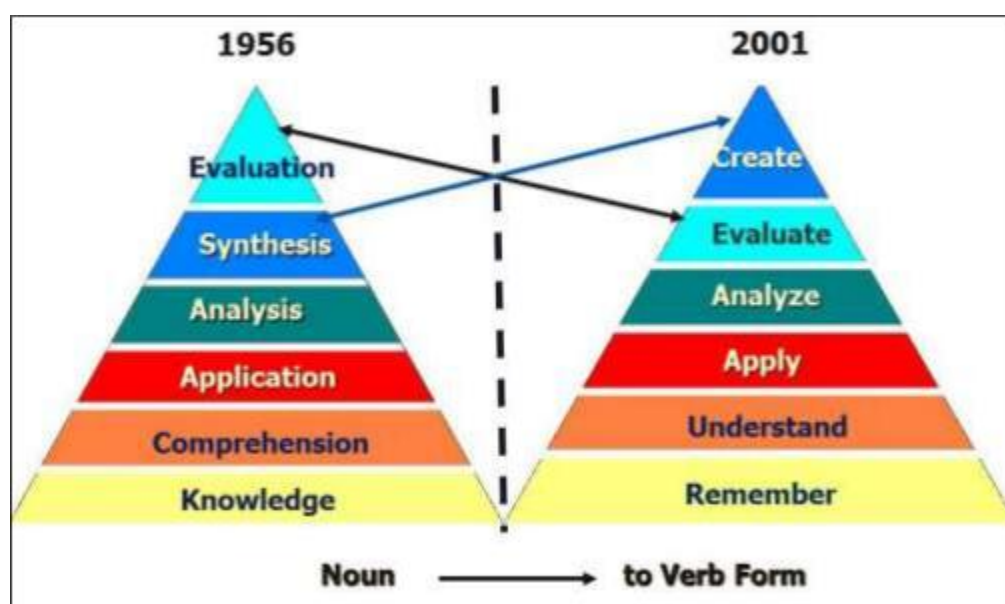


Figure 2. Bloom's Taxonomy 1956 Vs Anderson and Krathwohl 2001 (Wilson, 2016)

The key comparison of Bloom taxonomy is that originally presented taxonomy consisting six levels are nouns in contrary revised taxonomy is using verbs. Thus, it indicates that the revised taxonomy emphasizes actions rather than skills (waite et al., 2020). The six skills comprised in the revised taxonomy are remembering, understanding, applying, analyzing, evaluating, and creating (Russell & Airasian, 2012, p. 70). Bloom's taxonomy is unidimensional while the revised taxonomy is bidimensional, enabling educators to focus on both cognitive actions and depth of knowledge. From Table 1, the levels of knowledge, including the factual, the conceptual, the procedural, and the

meta-cognitive, can be easily identified. Bloom has examined his taxonomy after Anderson et al. (2001) revised the taxonomy and he has identified difference between knowledge which is marked in the lower category of his pyramid compared to other five level which dealt with skills and academic activities of an individual. Levels of knowledge were discussed in the original work of Bloom but not sufficiently discussed until Anderson et al. (2001) has revised and introduced metacognition knowledge.

Table 1. Revised Cognitive Processes (Anderson et al., 2001)

	Revised Cognitive Process					
Knowledge dimensions	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Factual	Listening	Summarizing	Classifying	Ordering	Ranking	Combining
Conceptual	Describing	Interpreting	Experimenting	Explaining	Assessing	Planning
Procedural	Tabulating	Predicting	Calculating	Differentiating	Concluding	Composing
Meta-cognitive	Determining Appropriate use	Executing	Constructing	Achieving	Acting	Actualizing

Factual Knowledge: The specific discipline knowledge dealing with facts of that discipline and introduced among the students to become familiar of specific subject is categorized under factual knowledge. Conceptual Knowledge is knowledge of classifications, principles, generalizations, theories, models, or structures pertinent to a particular disciplinary area. Procedural Knowledge refers to information or knowledge that helps students to do something specific to a discipline, subject, or area of study. It also refers to methods of inquiry, very specific or finite skills, algorithms, techniques, and particular methodologies. Metacognitive Knowledge is the awareness of one's own cognition and particular cognitive processes. It is strategic or reflective knowledge about how to go about solving problems, cognitive tasks, to include contextual and conditional knowledge and knowledge of self.

The revised taxonomy not only implies that knowledge learning is a dynamic process of development and change through the use of verb forms, but also breaks the original one-dimensional model into two-dimensional model by deeply exploring and expanding the three levels of knowledge learned. The new edition of Bloom's taxonomy of educational objectives transcends the old edition in dealing with the relationship between knowledge acquisition and ability formation. Therefore, the revised edition is more in line with the reform and development of education and teaching in the 21st century.

The application of Bloom's Taxonomy of Cognitive Learning Domain

In the context of China, the research on teaching objectives began at the end of the 1980s and a great deal of research has done about the application of Bloom's Taxonomy of cognitive learning domain.

However, there is a lack of applied research on the close combination of theory and teaching practice (Bertucio, 2017). It is likely for teachers to overemphasize the problem of memorizing factual knowledge while neglecting other more important and broader goals in the process of designing the cognitive field of teaching courses. Masapanta-Carrión & Velázquez-Iturbide (2018) applied Bloom's Taxonomy of educational objectives in College Computer Course. They tried to develop more comprehensive and scientific curriculum objectives in this course's teaching field, which is no longer limited to the memory of factual knowledge. Alzu'bi (2014) designed six kinds of questions at different levels according to students' level to relieve students' anxiety to some extent, enhance their confidence in English learning and increase their participation rate in class. The knowledge questions, comprehension questions and application questions designed by her belong to the lower level of cognition questions. The answers of these questions are relatively direct, clear and generally non-ambiguous. However, analytical questions, comprehensive questions and evaluative questions are higher-level cognitive questions. Usually, there is no single correct answer and students can answer from different perspectives, so they are open. These six kinds of questions provide a useful reference for other teachers to ask questions in class.

With the increase of online learning resources, the improvement of cloud collaborative learning platform, and the faster access to knowledge, the reform of online hybrid learning mode has prompted the application demand of Bloom's teaching target classification to be flipped under the background of the prevalence and the increasing popularity of mobile learning. Longo (2016) stated that the flipped classroom's basic structure should embody the forging of students' high-level thinking ability. Guan et al. (2016) proposes two typical modes for the flipped classroom's content distribution design: the flipped focus of teaching objectives and the flipped order of teaching objectives. However, not all content is suitable for flipping and flipped content design can break the original order of textbooks and discipline classification to achieve discipline integration.

Method

A qualitative research approach is adopted in the study. It applies a systematic literature review to build up a theoretical framework to understand the Bloom's taxonomy application. By analyzing these research results concerning Bloom's Taxonomy of cognitive domains, the comparison between the original and revised Bloom's Taxonomy and the application of Bloom's Taxonomy of cognitive learning domain, the researcher aims to integrate the theoretical framework to design the English teaching objectives of non-English majors studying in Yuxi Normal University (YXNU) of China. Then, a case analysis method is used to carry out the study. The case is objective, true and comprehensive because it is a response to the facts. To explore the

theory of scientific research based on case study greatly enhances the authenticity and validity of empirical research. The existing model of English teaching objectives of Yuxi Normal University is examined which is further categorized into six items as discussed in Table 2.

The teaching objectives has revised based on the Bloom's revised taxonomy as shown in Figure 2 and revised English teaching objectives for Yuxi Normal University is reset as discussed in Table 3. College English teaching objectives of Yuxi Normal University is revised by the author to improve teaching objectives' outcome. Meanwhile, EFL students can develop more educational skills and teachers can realize the course objectives.

Findings

Analyzing the Educational Objectives of College English of YXNU

English language is a required basic course for non-English majors in China to enroll in college. Teaching and learning in English language is an essential part in college & universities, therefore, Setting up a English course is of considerable significance to promote the coordinated development of college students' knowledge, ability, and overall quality and plays an irreplaceable role in talent training. Teaching in college, English is a comprehensive language teaching system, which focuses on the teaching of English knowledge, applied skills and learning strategies and the cultivation of intercultural communicative competence. Foreign language teaching theories are used as to its guidance, and integrating various teaching modes and means. In line with the principle of teaching students by their aptitude, the college English curriculum in YXNU adopts the mode of classified, graded teaching, and management assessment. College English Curriculum Requirements released by China Ministry of Education (2004) writes that the overall purpose of this course is to promote students' comprehensive English application ability, especially their listening and speaking ability, so that they can effectively communicate in oral and written English in future work and social communication, and at the same time enhance their independent learning ability and improve their comprehensive cultural literacy, so as to meet the needs of China's economy and international exchanges.

Accordingly, YXNU formulated six specific objectives which are (vocabulary, listening ability, oral ability, reading ability, writing ability and translating ability) under this overall goal of the program as listed in Table 2. The mode adopted by the college English course of YXNU, the teaching is divided into two different majors' clusters: arts-and-sports majors and non-arts-and-sports majors with four levels ranging from I to IV. In this research, the author will just focus on the objectives for the first-grade non-arts-and-sports majors. The educational objectives of the College YXNU, English program is designed based on primary skills of English learning, lacking however, objectives of high level and theoretical foundation.

Table 2. The Six Specific Objectives under the Overall Goal

Item	Content	Objectives in details
1	Vocabulary	Grasp 2500 words (including 1500 active words) and common phrases composed of these words; Master common word-formation methods and affixes, and distinguish the meaning of words according to their roots and affixes.
2	Listening Ability	Be able to grasp basic teaching language and understand English teaching; Understand short conversations, reports and lectures at the speed of 90 words per minute with familiar subjects, relatively simple structures, basically no unfamiliar words and can grasp the main idea, grasp the main points and specific details, understand the speaker's point of view and attitude.
3	Oral ability	Answer questions and retell the textbook and appropriate listening materials; Have a good command of daily Spoken English; After preparation, you will be able to make short speeches on everyday familiar topics.
4	Reading Ability	Understand articles on general topics with medium language difficulty, master the main idea and explain the facts and details of the main idea, make certain analysis, reasoning and judgment, understand the author's point of view and attitude, and read at a reading speed of 60 words per minute; Grasp the general idea of the center, grasp the main facts and relevant details, and read at a speed of 90 words per minute.
5	Writing Ability	Be able to sort out the main points of the reading material, answer related questions and briefly describe the text; Write a short essay of about 100 words on a certain topic or outline in 30 minutes; Write short messages and notes, expressing clearly, with no major mistakes in language use.

6	Translating Ability	Translate short and less difficult English passages into Chinese with the help of a dictionary; Have the ability to translate daily Chinese text materials into English without major language errors. The translation speed is 220 words per hour.
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The Revision of Objectives based on Bloom's Taxonomy of Cognitive Domain

The course objectives of college English teaching in YXNU have been revised based on the Bloom's Taxonomy's cognitive domain, the researcher still makes these objectives into six levels and demonstrated in Table 3. The author makes some adjustments to the original set of goals and supplements three high-level goals (analyzing, evaluating, and creating) that educators easily ignore. These objectives are still ranked in terms of difficulty, from simple, basic ones to complex, advanced ones.

Table 3. College English Course Objectives of YXNU based on Bloom's Taxonomy

Item	Taxonomy level	Objectives in details
1	Remembering	Grasp 2500 words (including 1500 active words) and common phrases composed of these words; simple sentence structure in the text and grammar points, such as basic Morphology, eight tenses, voices, clauses, moods and etc.
2	Understanding	Master common word-formation methods and affixes, and distinguish the meaning of words according to their roots and affixes; Be able to grasp basic teaching language and understand English teaching; Understand short conversations, reports and lectures at the speed of 90 words per minute with familiar subjects, relatively simple structures, basically no unfamiliar words and can grasp the main idea, grasp the main points and specific details, understand the speaker's point of view and attitude.; Understand articles on general topics with medium language difficulty, master the main idea and explain the facts and details of the main idea, make certain analysis, reasoning and judgment, understand the author's point of view and attitude, and read at a reading speed of 60 words per minute; Grasp the general idea of the center, grasp the main facts and relevant details, and read at a speed of 90 words per minute.
3	Applying	Answer questions and retell the textbook and appropriate listening materials;

		<p>Have a good command of daily Spoken English;</p> <p>After preparation, you will be able to make short speeches on everyday familiar topics;</p> <p>Be able to sort out the main points of the reading material, answer related questions and briefly describe the text;</p> <p>Write a short essay of about 100 words on a certain topic or outline in 30 minutes;</p> <p>Write short messages and notes, expressing clearly, with no major mistakes in language use;</p> <p>Translate short and less difficult English passages into Chinese with the help of a dictionary;</p> <p>Have the ability to translate daily Chinese text materials into English without major language errors. The translation speed is 220 words per hour.</p>
4	Analyzing	<p>Analyze the characters in the texts;</p> <p>Infer the symbolic meaning of different things and people in the text;</p> <p>Explain the expression ways and application effect of different English rhetoric devices in the text;</p> <p>Analyze the story plot, writing method and strategy, etc.</p>
5	Evaluating	<p>Narrate the revelation of the story in the article;</p> <p>Understand the meaning of each theme in the text;</p> <p>Analyze and understand the connotations of each topic from multiple angles;</p> <p>Critically treat and accept something similar happens in your life.</p>
6	Creating	<p>Share the harvest and inspiration in English learning with classmates;</p> <p>Learn a positive attitude towards life from the protagonist in the article.</p>

From Table 3, it can be seen that the three high-level objectives which are analyzing, evaluating, and creating contain less items compared to the low-level objectives. However, they are the higher requirements and objectives for EFL learning students. Since the realization of these objectives is difficult and often ignored, teachers should pay more attention to them consciously in English teaching.

Discussion

Teaching objectives are the first element that guides and governs the whole teaching activities. The determination of teaching objectives is undeniable of great significance and value. The design of any course activity starts from the setting of teaching objectives. Teaching objectives guide

the design and development of teaching activities, that is to say, teaching activities are carried out around teaching objectives. Bloom's Taxonomy, classification of learning goals, can provide educators a reliable theoretical basis for goal setting. Bertucio (2017) stated that the taxonomy theory of Bloom's cognitive education aims provides more explicit, more operational and more complete guidance of trinity teaching conception. Therefore, when designing teaching activities, teachers should fully consider the realization of six levels of teaching objectives. The author analyses the theoretical framework of Bloom's cognitive teaching objectives to review and reflect on the teaching objectives of Yuxi Normal University. Some suggestions for the revision of the teaching objectives of college English in YXNU are put forward. Bloom's teaching target classification is deeply integrated with actual teaching target cases, making college English teaching objectives more scientific. Through the exploratory research method, we can see great from the small, to guide more schools to set the teaching goals of college English courses or other courses.

Conclusion

College English teaching objectives set by Yuxi Normal University are designed and categorized into six objectives based on primary skills required by EFL learners, however, objectives of higher level and theoretical foundation are lacking. Therefore, exploratory research method is used to apply Bloom's revised taxonomy of educational objectives to reset these objectives. There are still six categories of college English teaching objectives of YXNU in the revised version and three high-order objectives which are analyzing, evaluating, and creating are highlighted. Comparatively, the three high-order categories contain less items than the low-level objectives, but they reflect the higher learning requirements and goals for students. In teaching, educators should give consideration to the realization of teaching objectives at all levels, and should never care about one thing or the other.

Conflict of Interest: There is no conflict of interest among the authors.

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