

**“Strong Minds Discuss Ideas”:****Exploring the Integration of Higher Order Thinking Skills  
in Algerian EFL Doctorate Contest Topics****"العقول القوية تناقش الأفكار": استكشاف دمج مهارات التفكير العليا في مواضيع****مسابقة الدكتوراه لتعليم اللغة الإنجليزية في الجزائر**

Hasna METATHA \*, (Batna 2 University), h.metatha@univ-batna2.dz

<https://orcid.org/0009-0008-5073-2812/>

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**Abstract**

The present study conducts a descriptive content analysis of Algerian EFL doctorate contest topics from the academic year 2022-2023 in order to examine the incorporation of higher-order thinking skills (HOTS) as delineated in Bloom's Revised Taxonomy. The research hypothesizes that the contest topics encompass all the three highest levels of Bloom's Taxonomy, reflecting the expected proficiency of candidates after five years of training. The study aims to assess the cognitive levels represented, evaluate the emphasis on higher-order thinking skills (HOTS), and explore the implications for educational assessment. Results indicate a predominant focus on Analyzing and Evaluating levels, with limited attention to Creating tasks. The study underscores the significance of aligning educational assessments with the cultivation of higher-order thinking skills. Recommendations are provided for stakeholders to enhance the quality and effectiveness of educational assessments in Algerian higher education

**Keywords:** Algerian EFL doctorate contests; Bloom's Taxonomy; Content analysis; Educational assessment; Higher order thinking skills

**ملخص**

تجري الدراسة الحالية تحليلاً وصفيًا لمحتوى موضوعات مسابقة الدكتوراه الجزائرية في اللغة الإنجليزية كلغة أجنبية للعام الدراسي 2022-2023 بهدف فحص دمج مهارات التفكير العليا (HOTS) كما هو محدد في تصنيف بلوم المنقح. يفترض البحث أن موضوعات المسابقة تشمل المستويات الثلاثة العليا لتصنيف بلوم، مما يعكس الكفاءة المتوقعة للمرشحين بعد خمس سنوات من التكوين. تهدف الدراسة إلى تقييم المستويات المعرفية الممثلة، وتحديد مدى التركيز على مهارات التفكير العليا (HOTS)، واستكشاف الآثار المترتبة على التقييم التعليمي. تشير النتائج إلى التركيز السائد على مستويات التحليل والتقييم، مع اهتمام محدود بمستوى الإبداع. تؤكد الدراسة على أهمية مواءمة التقييمات التعليمية مع تنمية مهارات التفكير العليا. وتقدم توصيات لأصحاب المصلحة لتعزيز جودة وفعالية التقييمات التعليمية في التعليم العالي الجزائري.

**الكلمات المفتاحية:** مسابقات الدكتوراه في اللغة الإنجليزية كلغة أجنبية (EFL) في الجزائر؛ تصنيف بلوم؛ تحليل المحتوى؛ التقييم التعليمي؛ مهارات التفكير العليا..

\* Corresponding author

## **Introduction**

Higher-order thinking skills (HOTS) are crucial components of education, especially in advanced studies, as they foster critical thinking, problem-solving, and the ability to analyze complex information (Anderson & Krathwohl, 2001). Within the context of English as a Foreign Language (EFL) education, particularly at the doctorate level, the assessment of HOTS is essential to ensure that candidates are equipped with the necessary cognitive skills to contribute effectively to their fields. In Algeria, the structure and content of EFL doctorate contest topics play a significant role in determining the extent to which these skills are nurtured and assessed. Despite the recognized importance of HOTS in educational curricula, there is limited empirical evidence on how these skills are integrated and evaluated in EFL doctorate contests in Algeria. This gap poses a challenge for policymakers and educators who aim to develop assessments that comprehensively evaluate candidates' cognitive abilities.

The primary objective of this study is to analyze the extent to which HOTS are incorporated into the EFL doctorate contest topics for the academic year 2022-2023 in Algeria. Specifically, the study aims to categorize the contest items according to Bloom's Revised Taxonomy to identify the cognitive levels they target. The study addresses the following research questions: What cognitive levels, based on Bloom's Revised Taxonomy, are most frequently assessed in the EFL doctorate contest topics? To what extent do the contest items require candidates to engage in Creating, Analyzing, and Evaluating tasks? It is hypothesized that all three levels, Analyzing, Evaluating, and Creating, are equally included in the doctorate contest topics, as it is expected that candidates, after five years of rigorous training, should demonstrate proficiency across all these higher-order cognitive skills.

This study is significant as it provides valuable insights into the current state of HOTS assessment in Algerian EFL doctorate contests. The findings will inform policymakers, curriculum developers, and educators about the existing gaps and areas for improvement in contest design. By highlighting the distribution of cognitive tasks, this research can contribute to enhancing the overall quality of higher education in Algeria. The study is limited to the EFL doctorate contest topics for the academic year 2022-2023, which may not fully represent trends over time or in other academic disciplines. Additionally, the analysis is confined to contest items, excluding other components of the doctoral assessment process such as oral examinations or dissertations.

## **Literature Review**

### **Understanding Higher Order Thinking Skills**

The concept of higher-order thinking, often known as higher order thinking skills (HOTS), has received significant attention, particularly in the American educational system, before spreading to other countries. This term is frequently used

interchangeably with other cognitive processes such as reflective thinking, metacognitive thinking, critical thinking, profound thinking, effective thinking, innovative thinking, productive thinking, and rational thinking (Giancarlo-Gittens, 2009). Previous studies, elaborating on the concept of Higher Order Thinking Skills (HOTS), mentioned that certain types of learning necessitate cognitive processes that go beyond simple understanding and recalling information to cover a wide range of other functions, such as generating ideas, making conclusions, analysing, building connections, and reviewing options (Djoud, 2023; Dillon and Scott, 2002; Miri et al., 2007; Zohar and Dori, 2003). Furthermore, Lewis & Smith (1993) concluded that HOTS occur when the information stored in memory and new knowledge are interconnected, reorganized, and extended to achieve goals or find possible answers in confusing situations. Additionally, Rajendran (2001) explains that HOTS demand students to critically analyze knowledge, generate original communication, provide predictions, offer solutions, construct and solve problems related to everyday life. These assertions reinforce the complexity and depth inherent in higher-order thinking skills, highlighting their pivotal role in facilitating meaningful learning experiences and cognitive development.

Scholars widely agree that HOTs correspond to the three highest thinking levels of cognitive skills in Bloom's Taxonomy pyramid (Fitzpatrick & Schulz, 2015) which was revised later in 2001 by Anderson and Krathwohl to better reflect the dynamic nature of educational objectives. The three levels involve analyzing, which refers to the ability to examine and break information into parts by identifying motives or causes, making inferences, and finding evidence to support generalizations (Anderson & Krathwohl, 2001), evaluating, that is the capability to present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria (Anderson & Krathwohl, 2001; Brookhart, 2010), and finally creating which entails the students' ability to compile information together in a different way by combining elements in a new pattern or proposing alternative solutions (Brookhart, 2010).

The revised taxonomy provides specific action verbs associated with each cognitive level, which are instrumental in analyzing HOTS in educational contexts. At the analyzing level, verbs such as "differentiate," "organize," "attribute," and "compare" help identify tasks that require breaking down information into parts and understanding relationships. For the evaluating level, verbs like "critique," "judge," "assess," and "justify" are used to identify activities that involve making judgments based on set criteria. At the creating level, verbs such as "design," "construct," "produce," and "formulate" indicate tasks that involve generating new ideas or products by integrating existing knowledge. These verbs guide the assessment of contest topics, allowing for a systematic evaluation of the presence and extent of HOTS in the EFL doctorate contest topics.

A comprehensive examination of the literature confirms the widespread integration of HOTS in education overall, and notably in English as a Foreign Language (EFL) education (Ahmad et al., 2017; Chen, 2017; Ghanizadeh, Al-Hoorie, & Jahedizadeh, 2020 Soulé & Warrick, 2015; Yang and Gamble's, 2013). This is because HOTS is one of the fundamental skills in the 21st century that could empower students to think critically, enabling them to analyze information, evaluate arguments, and make reasoned judgments which is crucial for navigating the complexities of the modern world and making well-informed decisions (Paul & Elder, 2001). In addition, students with strong HOTS can identify problems, generate innovative solutions, adapt their strategies based on feedback, and hence they are better equipped to engage with new information and continue learning beyond formal educational settings (Halpern, 1999; Mayer, 1992). Moreover, integrating HOTS into EFL instruction equips students with the skills to comprehend and engage with English texts at a deeper level, to express their ideas, opinions, and arguments clearly and persuasively, both orally and in writing, to gain a deeper appreciation of cultural nuances embedded in language use, and to become more independent learners capable of setting and achieving their language learning goals (Astrid, Hasanah, & Syafryadin, 2022).

## **Overview of Algerian EFL Doctorate Contests**

In Algeria, graduate studies have undergone significant reforms aimed at enhancing the quality and structure of higher education. These reforms have impacted all levels of higher education, including the organization of graduate studies beyond the undergraduate level. According to Bebbi and Al-Hawary (2017), the evolution of graduate studies in Algeria can be traced through four distinct phases:

**Phase 1:** Initiated by Decree 76-43 in 1976, this phase focused on creating and organizing the first stage of study beyond the undergraduate level. It primarily regulated Magister's degree programs across various disciplines, excluding medical sciences.

**Phase 2:** Introduced by Decree 87-70 in 1987, this phase expanded postgraduate studies to include a second stage known as the "Doctorate of State," along with specialized postgraduate diplomas.

**Phase 3:** Marked by Executive Decree 98-254 in 1998, this phase introduced further reforms in post-PhD and specialized tertiary education.

**Phase 4:** Initiated by Law No. 08-06 in 2008, this phase reorganized higher education into three distinct stages: Licence/Bachelor's, Master's, and Doctorate (LMD). This phase marked the launch of a gradual system of higher education starting from the academic year 2003-2004.

Currently, Algerian universities offer graduate programs organized according to the provisions outlined in Law 99-05 of 1999 and Executive Decree 98-254 of 1998. The

rights and duties of doctoral students are established by various legislative and regulatory texts, including Executive Decree 231-10 of 2010 and subsequent decisions. Additionally, the issuance of the Thesis Charter in 2014 provided a reference guide for doctoral students, supervisors, and university authorities involved in the doctoral configuration process. In line with these regulatory frameworks, Algeria boasts more than 70 doctoral schools, with the University of Oran hosting the largest number of doctoral schools in the country (Bebba & Al-Hawary, 2017). Notably, some universities offer doctoral programs without hosting a doctoral school.

In accordance with Article 1 and the provisions outlined in articles 40, 49, 60, and 62 of executive decree No. 22-208 dated June 5, 2022, which summaries the conditions for access to and organization of third-cycle training and the prerequisites for the preparation and defense of a doctoral thesis, access to third-cycle training is facilitated through a national competitive examination/contest comprising written tests. The contest is administered by the authorized institution and encompasses several procedural stages, including delivering calls for applications, examining the submission of application files, conducting written tests, and announcing the results. The procedural details pertaining to the contest are annually defined by the competent authorities of the central administration within the Ministry of Higher Education and Scientific Research.

The contest is accessible to candidates who hold a Master's degree, a state engineer's degree, an architect's degree, a doctor of veterinary medicine degree, or a diploma equivalent to five years of training from the Higher Normal Schools (Écoles Normales Supérieures) (ENS). Furthermore, individuals with a "passable" (satisfactory or acceptable) mention in the Magister program or equivalent foreign diplomas are eligible to participate. Foreign students holding diplomas from Algerian higher education institutions are subject to the same access conditions as outlined in Article 2, provided they obtain prior authorization to participate in the contest from the competent services of the Ministry of Higher Education and Scientific Research. Also, scholarship recipients under international cooperation programs are exempt from the contest. However, their enrollment is subject to equivalence decisions in specified fields of study. The competent services of the Ministry of Higher Education and Scientific Research notify the relevant institutions of their application.

Moreover, Algerian students holding a Magister degree or possessing equivalent foreign diplomas with at least an "Assez bien" (Pretty good) mention are eligible for direct enrollment in third-cycle training without the requirement to undertake the contest. It is noteworthy that the seats reserved for this category of students are distinct from the regular quota. At each accredited university, a committee is instituted to orchestrate and administer the contest, under the supports of the institution's principal. The selection of candidates for the written tests should adhere

to the criterion of five times the total count of available pedagogical positions per specialty. In cases where this threshold is not met for specific specialties, the contest for those particular fields will be canceled. Moreover, if the number of candidates present in one or more specialties falls short of double the total count of available pedagogical positions, the contest for those specialties will similarly be revoked.

The written tests encompass the curriculum content approved for both undergraduate and graduate programs, aiming to evaluate candidates' knowledge, analytical abilities, critical thinking, and research abilities. Candidates' final rankings hinge on their overall average scores in these written tests. In case of ties, candidates are ranked based on their scores in specialty tests or their overall average scores in graduate or undergraduate programs. Successful candidates are required to enroll in university institutions within fifteen days following the announcement and validation of the final results by the competent scientific body.

Chapter 2 of Article 2 outlines the organization of third-cycle training, which is provided by authorized higher education institutions and leads to a doctoral degree. The training aims to prepare students for careers in higher education, research and development, expertise, and high-level supervision in various socio-economic sectors of the country. Third-cycle training can be organized within doctoral schools and is based on national research priorities, accredited research programs and projects, and the institution's project. The number of available pedagogical positions is determined annually by ministerial decree.

Institutions authorized to organize third-cycle training must satisfy certain criteria, such as possessing sufficient supervisory capacity, research units, and alignment with national research priorities. Proposals for accreditation undergo yearly evaluation by the national accreditation commission, with accreditation granted for a period of three years by the Minister of Higher Education and Scientific Research. Additionally, each institution establishes a doctoral training committee for accredited postgraduate programs, responsible for coordinating the program. The duration of third-cycle training is typically three years, but it can be extended for one to two years based on recommendations from the thesis supervisor, doctoral training committee, and accredited scientific bodies. These additional years are considered part of the legally prescribed training period.

The objectives and goals of doctorate contests at Algerian universities are manifold and integral to the advancement of higher education and research within the country. Firstly, these contests aim to ensure the rigorous selection of doctoral candidates based on merit, academic excellence, and research potential (Bebba & Al-Hawary, 2017). By maintaining high standards of evaluation, the contests contribute to upholding the quality and integrity of doctoral education and research programs. Secondly, they serve to promote inclusivity and equal opportunities by providing a fair and transparent platform for all eligible candidates, irrespective of

their background or affiliation (Arrêté no 200/1). Through this, the contests strive to cultivate a diverse and talented pool of doctoral scholars, enriching the academic and research landscape of Algerian universities. Additionally, doctorate contests play a crucial role in fostering innovation, knowledge creation, and scientific advancement within priority sectors of national development (Bebba & Al-Hawary, 2017). By identifying and supporting promising researchers, these contests contribute to strengthening Algeria's research capacities and addressing societal challenges through evidence-based solutions. Moreover, they facilitate the internationalization of higher education by attracting talented candidates from across the globe, promoting cross-cultural exchange, and fostering collaboration with international institutions and researchers (Arrêté no 200/1). Ultimately, the overarching goal of doctorate contests at Algerian universities is to nurture a new generation of skilled researchers and academics who can drive forward the country's socio-economic development and contribute to global knowledge creation.

In the realm of EFL education, doctorate contests are pivotal in fostering academic excellence, serving as catalysts for innovation, research, and professional development within the EFL community. They provide a platform for EFL educators and researchers to showcase their scholarly contributions, nurturing a culture of academic excellence and intellectual inquiry (Smith, 2019). By promoting rigorous research and the dissemination of findings, these contests significantly contribute to advancing knowledge and enhancing best practices in EFL teaching and learning. Additionally, they address the evolving needs and challenges of EFL education by encouraging the exploration of innovative pedagogical approaches, curriculum designs, and assessment strategies (Jones et al., 2020). Through doctorate contests, educators are motivated to explore new methodologies, technologies, and theoretical frameworks that can improve the quality and efficacy of EFL instruction. Moreover, doctorate contests offer invaluable opportunities for networking, collaboration, and professional growth within the EFL community (Brown & Lee, 2018). Participants engage in dialogue, exchange ideas, and receive feedback from peers and experts, enriching their understanding of current trends and debates in EFL education. This collaborative environment fosters a culture of continuous improvement and inspires educators to strive for excellence in their teaching and research endeavors. Additionally, these contests serve as a mechanism for recognizing and celebrating outstanding achievements in EFL education (García, 2021), inspiring educators to aim for higher standards of excellence and enhancing the reputation of EFL education nationally and internationally.

## **Methodology**

This study employs a descriptive content analysis methodology to investigate the prevalence and distribution of higher-order thinking skills (HOTS) within the context of Algerian EFL doctorate contest topics from the academic year 2022-2023. The dataset comprises contents and/or questions extracted from 47 out of 50 contest

topics administered by 19 universities and Higher Normal Schools (ENS). The selection of the academic year 2022-2023 was deliberate, chosen for its relevance and accessibility, representing the most recent contests and ensuring that the dataset reflects current educational practices and standards. Contest topics were systematically gathered through extensive internet search and solicited contributions from colleagues in the EFL education field. The search strategy targeted official examination websites, educational forums, and various online platforms, using customized search terms to pinpoint pertinent contest topics/questions. Additionally, collaborative efforts with colleagues facilitated the inclusion of supplementary questions, thereby augmenting the comprehensiveness of the dataset. Despite these diligent efforts, it should be noted that three contest topics remained elusive and could not be located through the aforementioned methodologies.

Building upon the comprehensive dataset collected, the analysis focuses on the three highest levels of Bloom's Taxonomy – Analyzing, Evaluating, and Creating – as it is expected that doctorate-level candidates primarily engage with these higher order cognitive skills. All contest contents/questions were analyzed regardless of specialty or option. Using Bloom's Revised Taxonomy, each question was qualitatively coded based on associated action verbs, facilitating categorization into Analyzing, Evaluating, or Creating levels. Additionally, the frequency of contest questions in each cognitive level category was quantitatively calculated to provide a comprehensive overview of the cognitive demands of the contest. It is acknowledged that the study is limited to contest topics from the academic year 2022-2023 and may not fully represent the entire spectrum of EFL doctorate examinations in Algeria.

## **Findings and Discussion**

The following table presents the results of our analysis, showing the distribution of HOTS in the Algerian EFL doctorate contest topics / questions for the academic year 2022-2023. The analysis categorized each contest topic according to the cognitive levels defined by Bloom's Revised Taxonomy: Analyzing, Evaluating, and Creating. Each category was defined based on specific action verbs present in the questions, which correspond to the different cognitive processes expected of the candidates. However, it is important to note that some verbs can belong to different cognitive levels depending on the context. In such cases, we analyzed the entire topic in order to determine the cognitive level it aims to assess. This detailed breakdown allows us to understand the emphasis placed on various cognitive skills in these high-stakes examinations.



**Table: Distribution of Higher Order Thinking Skills in Algerian EFL Doctorate Contest Questions (2022-2023)**

Cognitive Level	verbs	Number of items/ questions	Percentage (%)
<b>Analyzing</b>	Discuss, explain, present, examine, illustrate, analyze, test, compare	<b>19</b>	<b>40.42</b>
<b>Evaluating</b>	Discuss, explain, argue, defend, assess, choose, choose decide	<b>15</b>	<b>31.91</b>
<b>Creating</b>	Choose, design, suggest, discuss, elaborate, test, adapt, develop	<b>2</b>	<b>4.25</b>
<b>Dual- level</b>	Discuss and suggest, discuss and illustrate, present and defend	<b>9</b>	<b>19.14</b>
<b>Others</b>		<b>2</b>	<b>4.25</b>

As demonstrated in the table, the distribution of HOTS in the contest items reveals a strong emphasis on the cognitive levels of Analyzing and Evaluating, with a comparatively lesser focus on Creating. This distribution suggests that the contest items are designed to test candidates' abilities to engage with and critically assess complex information while providing fewer opportunities to demonstrate innovative and original thought.

**Analyzing Level:** Representing 40.42% of the contest topics, this level includes verbs such as "discuss," "explain," "present," "examine," "illustrate," "analyze," "test," and "compare." These verbs indicate tasks where candidates must dissect information, identify patterns and relationships, and make inferences. For example, the item: *"The concept of intertextuality endows discourse analysis with important insights into language and social interaction. Elaborating on the above quote, discuss the major theoretical contributions to the concept of intertextuality with reference to prominent scholars in the field"* requires contestants to analyze the concept of intertextuality and its influence on discourse analysis, referencing key theoretical contributions from prominent scholars. This involves higher-order cognitive skills, such as critical analysis and synthesis of theoretical ideas.

Another topic that primarily tests the analyzing cognitive level is: *"Autonomous learners construct their knowledge by focusing on the metacognitive language learning strategies. Discuss."* Here, contestants are prompted to examine the relationship between autonomous learning and metacognitive language learning

strategies, identifying how these strategies contribute to knowledge construction. They are expected to dissect the components of autonomous learning and metacognitive strategies and understand how they function together in the language learning process. This prevalence suggests that the contest places a significant emphasis on ensuring that candidates can understand and deconstruct complex concepts and arguments.

**Evaluating Level:** this level encompasses 31.91% of the contest topics, representing a substantial portion of the assessment. This cognitive level is characterized by verbs such as "discuss," "explain," "argue," "defend," "assess," "choose," and "decide," which signal tasks that necessitate candidates to make informed judgments grounded in criteria and standards. These tasks demand candidates to scrutinize the value of theories, concepts, or practices and articulate reasoned arguments to support their positions.

Consider a topic like *"Using technology has proved to be highly helpful in data collection and analysis regardless of the research methodology. Discuss."* In responding to this task, candidates have to evaluate the effectiveness of technology in facilitating data collection and analysis in research and assess its impact on research quality, efficiency, and reliability. They need to consider the benefits and drawbacks of using technology in research methodologies and evaluate its appropriateness in different research contexts.

Another example of a topic that aligns with the Evaluating level of Bloom's Taxonomy is: *"Teaching and learning English as a foreign language is based on the idea that learners' own initiative and effort are involved in the learning process in order to build their own knowledge. Present the different arguments about the topic and defend your opinion based on your experience as a learner in the academic context."* This task requires contestants to evaluate the idea that learners' initiative and effort are central to knowledge building in EFL learning and make judgments about its validity and implications based on their experiences as language learners.

Overall, the prominence of evaluation tasks within the contest questions reflects a deliberate pedagogical focus on nurturing candidates' capacity to critically assess information, weigh competing perspectives, and construct convincing arguments. By enhancing these skills, candidates are better equipped to engage thoughtfully with complex issues and contribute meaningfully to scholarly and professional discourse.

The **Creating Level** constitutes a mere 4.25% of the contest topics, suggesting a limited emphasis on tasks that require candidates to generate new or original work. This cognitive level encompasses verbs such as "choose," "design," "suggest," "discuss," "elaborate," "test," "adapt," and "develop," which prompt candidates to engage in higher-order thinking processes aimed at producing innovative solutions or insights.

For instance, consider a topic like *"you are interested in investigating the effect of using technology tools in English vocabulary acquisition. How would you turn this research problem into a research proposal? Write down the outline of this proposal explaining each part fully."* In response to this task, candidates are challenged to synthesize their understanding of relevant theories, methodologies, and practical considerations to create a comprehensive plan for empirical investigation. This involves several key elements, including defining clear research questions, selecting appropriate research methods, identifying relevant theoretical frameworks, and considering practical constraints such as participant recruitment and data collection procedures. Moreover, the process of creating a research proposal demands a degree of innovation and creativity in designing a study that addresses the research problem effectively.

To answer the previous question, candidates must demonstrate their ability to think critically and imaginatively about how technology can be leveraged to enhance English vocabulary acquisition, considering factors such as the selection of technology tools, the design of learning activities, and the measurement of learning outcomes. Thus, while the Creating Level represents a small proportion of the contest items, it offers candidates valuable opportunities to showcase their ability to generate novel ideas and solutions within the context of language learning and teaching.

**Dual-Level Assessment:** Some contest topics transcend single-level tasks by simultaneously assessing multiple cognitive levels, offering a more comprehensive evaluation of candidates' cognitive abilities. For instance, consider the topic: *"Teaching and learning English as a foreign language is based on the idea that learners' own initiative and effort are involved in the learning process in order to build his own knowledge. Present the different arguments about the topic and defend your opinion based on your experience as a learner in the academic context."* Candidates tackling this prompt are expected to dissect and examine the presented arguments. This involves breaking down complex ideas, identifying key themes, and discerning underlying assumptions. Analyzing the arguments allows candidates to gain deeper insights into the complexities of the topic and the various factors at play.

Moving beyond analysis, candidates are prompted to evaluate the validity and effectiveness of the arguments, aligning with the Evaluating level of Bloom's Taxonomy. Here, candidates assess the strengths and weaknesses of each argument, consider evidence and reasoning, and make informed judgments. By evaluating the arguments, candidates demonstrate their ability to critically assess information, weigh competing perspectives, and formulate reasoned opinions.

Another example of dual-level assessment is presented in a topic that asks candidates to discuss Widdowson's quotation (*"ESP is simply a matter of describing a particular area of language and then using this description to impact to learners the necessary restricted competence with a particular area"*) and suggest suitable guidelines for designing an appropriate ESP course. Candidates are required to analyze the statement by examining its components and implications, breaking down

the concept of ESP into its fundamental elements. Furthermore, candidates are prompted to propose suitable guidelines for designing an ESP course based on Widdowson's assertion, requiring them to synthesize their understanding of ESP principles with Widdowson's insights.

This approach underscores the complexity and depth of candidates' cognitive engagement as they navigate between different levels of thinking within a single task. While the prevalence of dual-level assessment may contribute to an imbalance in statistics across cognitive levels, it enriches the assessment process by providing a more holistic view of candidates' cognitive skills and competencies. This category accounts for 19.14 % of the total contest items analyzed, demonstrating its significance in capturing the multifaceted cognitive demands of the examination.

It was notable to discover that among the prevalent focus on higher-order cognitive skills in the contest topics, two questions addressed the lower level of understanding. These instances, constituting a mere 4.25 percent of the total, diverged from the overarching trend towards assessing Analyzing, Evaluating, and Creating levels. As an illustration, a specific topic prompted candidates to explain the concept articulated by Scrinner (2004), regarding the teacher's evolution from being merely an explainer to becoming an enabler, as a pathway to optimal teaching efficiency. This question primarily necessitated candidates to comprehend the notion of evolving teaching methodologies and its implications for instructional effectiveness.

Similarly, another topic directed candidates to explain the systematic nature of research methodology, emphasizing the researcher's role in its success. This prompt primarily assessed the cognitive skill of comprehension, as it required the writer to grasp the intricacies of research methodology and its structured procedures. Understanding this concept entailed comprehending the various steps and protocols involved in conducting research, along with recognizing the researcher's pivotal role in ensuring the efficacy of the process.

Our research sought to investigate the distribution of higher-order thinking skills (HOTS) in Algerian EFL doctorate contest topics for the academic year 2022-2023. We initially hypothesized that the contest topics would equally emphasize the Analyzing, Evaluating, and Creating levels of Bloom's Taxonomy, thereby offering a balanced assessment of these cognitive skills. Contrary to our hypothesis, the results revealed a predominant focus on Analyzing (40.42%) and Evaluating (31.91%) tasks, with a mere 4.25% of tasks engaging candidates in Creating. This pattern aligns with existing literature, which indicates that higher education assessments typically prioritize critical analysis and evaluation over creative thinking (Anderson & Krathwohl, 2001; Gibbs, 1992; Kellaghan & Greaney, 2019; Ramsden, 1992). The significant presence of dual-level cognitive tasks, predominantly combining Analyzing and Evaluating, further highlights this emphasis. However, the limited focus on Creating tasks highlights a potential gap in nurturing innovative and original thought among candidates. This observation is consistent with previous studies advocating for a more balanced approach to HOTS

assessment to foster comprehensive cognitive development (Brookhart, 2010; Cherry, 2023; Lancrin, 2023). Our findings suggest the need for policy and curriculum adjustments to encompass a wider array of cognitive skills, thereby better equipping candidates for the multifaceted demands of advanced research and professional practice.

## **Conclusion**

The present study provides an extensive examination of higher-order thinking skills (HOTS) evident in Algerian EFL doctorate contest topics for the academic year 2022-2023. Results demonstrate a predominant concentration on the Analyzing and Evaluating cognitive levels, with a notable scarcity of tasks targeting Creating. Analyzing tasks represent the majority, closely trailed by Evaluating tasks, while Creating tasks constitute a minor portion. Additionally, a substantial proportion of questions involve dual-level cognitive tasks, amalgamating Analyzing and Evaluating. This signifies a pronounced emphasis on critical analysis and evaluation within the contest structure. Nonetheless, the limited incorporation of Creating tasks suggests a potential deficiency in nurturing candidates' creative thinking abilities, advocating for a more balanced assessment strategy to ensure comprehensive evaluation of HOTS.

Our study makes a valuable contribution to understanding the cognitive demands placed on candidates in Algerian EFL doctorate contests. By systematically categorizing and evaluating the contest topics using Bloom's Revised Taxonomy, we provide insights that can inform improvements in the assessment processes. The findings emphasize the importance of aligning contest topics with a broader spectrum of HOTS to better prepare candidates for advanced research and professional practice.

To address these insights, several recommendations can be proposed for policymakers, educational authorities, curriculum developers, and examiners. Policymakers and educational authorities should ensure a more balanced distribution of HOTS in EFL doctorate contests by incorporating more tasks that require Creating skills. This involves reevaluating and updating curriculum content to integrate activities that foster all levels of HOTS. Curriculum developers and examiners should focus on designing diverse questions that assess not only Analyzing and Evaluating but also Creating. Training for examiners is crucial to help them design and evaluate topics that challenge candidates to engage in higher-order cognitive processes.

For educators and researchers, there is a need to integrate HOTS into everyday teaching practices and research activities. This includes designing classroom activities and assignments that require students to analyze, evaluate, and create. Continuous professional development through workshops, seminars, and collaboration with international experts is essential to stay updated on best practices for teaching and assessing HOTS.

By addressing these recommendations, stakeholders can enhance the quality and rigor of EFL doctorate contests in Algeria, ensuring that they effectively prepare candidates for advanced research and professional practice.

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