
CONCEPTUAL PRINCIPLES OF THE FOREIGN LANGUAGE APTITUDE ASSESSMENT OF CANDIDATES TO UKRAINIAN HIGHER MILITARY EDUCATION INSTITUTIONS

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Abstract

The article analyzes the approach to the selection process of the higher military education institutions' (HMEI) candidates, in particular using the Foreign Language Aptitude Assessment (FLAA) as a tool and its conceptual principles. This article also examines the theoretical and practical aspects of the FLAA, outlines the key principles and functions of language aptitude, the criteria for evaluating language aptitude, and the relevance of modern technological tools, such as the Moodle platform, for organizing effective, objective, and standardized language testing. The Moodle-based FLAA is a complex three stages assessment conducted at Yevhenyi Berezhnyak Military Academy and is aimed at determining the level of applicants' language aptitude and, as a result, to ensure the qualitative selection of specialists who will be able to master foreign languages (FL) within the limited period of time in order to perform professional tasks.

Key words: Foreign Language Aptitude Assessment, language acquisition, Moodle platform, language assessment, tester, conceptual principles, criteria.

Introduction

Russia's large-scale aggression against Ukraine and a full-scale war have triggered the need to find the ways and tools of military specialists' better preparation. For the successful fulfillment of professional tasks, military specialists must possess not only basic cognitive abilities but also specific linguistic skills called linguistic aptitude.

These are the basics of the FLAA: sufficient motivation for FL, the knowledge of a native language, learning associative memory, verbal-logical thinking, , the ability to complete linguistically oriented tasks, the ability to segment, identify (code) distinct foreign sounds and form associations between them and graphemic symbols representing them for later use, the ability to identify grammatical functions of words/phrases in sentences, the ability to infer linguistic rules and patterns from limited linguistic evidence for example, a fictitious language, the ability to form associative links between form and meaning of language material presented visually, the speed of mastering language structures, all of which contribute to effective language acquisition.

Our studying outlines the theoretical and practical framework for the FLAA specifically designed for candidates seeking admission to HMEI in the context of the ongoing large-scale aggression against Ukraine. Our research seeks to establish a scientifically grounded and pedagogically sound system for the qualitative selection of individuals possessing the requisite linguistic aptitude to effectively learn and utilize foreign languages in their future professional military endeavors.

Result

1. Theoretical background

The analysis of the latest research and publications makes it possible to state that the FLAA has been studied by domestic and foreign scholars, namely: linguistic intelligence (G. Gardner), structural elements and patterns of development of foreign language learning abilities (J. Carroll, C. Sepon, P. Pimsler, V. Henmon. R. Lado), testing in foreign language teaching (A. Davies, G. Henning), testing as a method of verifying professional competence (R. Lado), adaptation of the modern language aptitude test by Carroll and Sapon (J. Rysiewicz), methodological recommendations for creating test tasks and tests in the MOODLE learning management system (V. Sergienko, V. Franchuk, L. Kukhar). By FLAA we understand a set of procedural stages that include planning, design, piloting for effectiveness, and fulfillment of specific tasks in the form of verbal and non-verbal stimuli (test items), which are intended to elicit particular verbal or non-verbal responses from the test-takers. These responses allow the identification and prediction of the test-takers' level of language aptitude.

FLAA conducted at Yevhenyi Bereznyak Military Academy (hereinafter referred to as the MA) is a pedagogical phenomenon that involves the preparation, piloting, and application of a complex of specialized tasks aimed at determining the degree of linguistic ability development in applicants to higher education institutions.

The purpose of FLAA is the qualitative selection of candidates who are capable, within a limited period, of mastering FL in order to perform professional tasks that require understanding and analyzing information in FL, as well as communication with representatives of foreign countries.

Another goal of FLAA is to identify high-potential candidates in terms of:

- speed of perceiving lexical and grammatical features in an unfamiliar language;
- ability to independently identify linguistic patterns and make predictions;
- memory capacity for foreign vocabulary;
- auditory perception and differentiated auditory sensitivity;
- ability to establish connections between sounds and their graphical representations, as well as between words and their corresponding images.

Based on our analysis of scientific literature, approaches, and methods of FLAA, we conclude that the objectives of FLAA of candidates to Ukrainian higher military education institutions (HMEI) include determining the presence and level of development of fundamental language skills and abilities (according to S.P. Shatilov's concept, as cited in Nikolaieva's *Methods of Teaching Foreign Languages*, such as:

- perceptive skills (reading technique) – reading proficiency;
- auditory skills (phonemic and intonational hearing) – listening comprehension;
- calligraphic and orthographic skills (writing technique) – writing proficiency;
- pronunciation skills (articulatory and intonational) – speaking proficiency.

2. Principles of the FLAA

Based on our study of the scientific literature on language testing, classification of language tests, principles of foreign language instruction, general didactic principles, principles of organizing specific types of learning, and the practice of test-based assessment of linguistic aptitude, we have formulated principles for FLAA of candidates to HMEI. These principles take into account the approaches of such researchers as: Lee Cronbach, Robert Linn, and Samuel Messick, who worked on issues of test validity and its types; Edward Thorndike, Lewis Terman, and Karl Pearson, who studied standardization and objectivity in assessment and whose work contributed to the development of statistical data analysis methods and the creation of standardized tests.

It should also be noted that the principles of practicality, reliability, and cost-efficiency in testing are the result of the long-standing development of pedagogical assessment theory and practice. These principles are grounded in the works of various scholars in the fields of psychometrics and education:

Robert Linn is known for his contributions to the theory of test validity and interpretation of test results, including issues of practicality and reliability;

Lee Cronbach made significant contributions to the theory of validity, especially construct validity, and explored issues of reliability and generalizability of test results;

Samuel Messick is recognized for his integrative theory of validity, which encompasses all aspects of validity, including the social and ethical consequences of test use.

The development of the subject-activity approach was addressed by several prominent scholars:

Lev Vygotsky, a well-known Soviet psychologist, who developed the cultural-historical theory of mental development. He emphasized the active role of the individual in learning and development, as well as the importance of social interaction and collaboration;

Alexei Leontiev, a Soviet psychologist, who advanced activity theory. He argued that activity is the fundamental mode of human existence and that personality develops through activity.

Sergey Rubinstein, a Soviet psychologist and philosopher, who explored the concept of the subject of activity. He emphasized that a person is not merely a passive object of external influences but an active creator of their own destiny;

Thus, we have identified the following core principles of FLAA:

- principle of Official Recognition implies the official status of test results, which are formalized in a document serving as the basis for making decisions about applicants' admission to an educational institution;
- principle of the Subject-Activity Approach requires focusing on the test-taker as an individual subject of speech activity. Test materials are developed according to the individual's educational level, practical experience (or lack thereof) with foreign languages, and anticipated professional responsibilities;
- principle of Validity is defined by indicators such as appropriateness, effectiveness, and applicability. It answers the question of whether the test measures what it was intended to measure. Types of validity include comparative, predictive, content-related, conceptual, and external validity;
- principle of Reliability ensures the consistency and stability of test results, as well as standardized conditions—uniform testing environments for all participants;
- principle of Practicality is characterized by the accessibility of test instructions and content, ease of administration within typical higher education settings, simple scoring procedures, and clear result interpretation;
- principle of Cost-Efficiency allows, under specified conditions (such as purpose, testing objects, age, and level of preparation), for the collection of maximum reliable information about test-takers with minimal time spent on test design, scoring, and data processing.

Additional principles include:

- principle of Motivation involves identifying the applicants' level of motivation and interest in learning a foreign language, which is a prerequisite for successful language acquisition. It may be implemented through a questionnaire in which candidates select tasks (both linguistic and non-linguistic) that interest them most, allowing assessment of motivational factors;
- principle of Systematicity: assessment procedures must be structured as a comprehensive system, encompassing goals, functions, methods, techniques, tools, stages, sequence of

actions, assessment criteria, and indicators, ensuring the diagnostic process functions as an integrated system;

- principle of Minimization: given the time constraints typical of diagnostic testing, tasks should be designed to cover typical problem types efficiently and effectively;
- principle of Scientific Grounding involves selecting methods, techniques, tools, assessment criteria, and indicators based on the achievements of pedagogy, psychology, methodology, philology, linguistics, and other related fields;
- principle of Linguistic Performance Analysis: the construction of the testing methodology must be based on an in-depth analysis of speech activity and language performance patterns;
- principle of External Diagnostic Validity: the test battery must include clear external criteria for establishing its diagnostic validity;
- principle of Objectivity: as a fundamental didactic principle in diagnosing linguistic abilities, it requires that methods, tasks, and evaluation criteria remain unbiased, reliable, and free from subjective influences. Objectivity ensures the accuracy and trustworthiness of test results in linguistic aptitude assessments.

3. FLAA's functions

Based on a thorough study of the scientific literature concerning the functions of language testing, the role of assessment in FL instruction, the functions of pedagogical control, and the overall educational process—as well as an analysis of diagnostic practices for military specialists—we have formulated the primary functions of the FLAA:

- diagnostic function ensures the identification of a certain level of development of linguistic abilities;
- differentiating function supports the placement of candidates into appropriate foreign language study groups;
- predictive function allows for forecasting the capacity and readiness of applicants to study in a specific group;
- evaluative function enables the determination of the degree of linguistic ability development and the assignment of appropriate scores to test-takers, with the legal documentation of these results (e.g., examination records);

Thus, by clearly defining the purpose, objectives, principles, and functions of FLAA, it becomes possible to achieve its fundamental goal—the objective determination of the level of linguistic aptitude for foreign language learning.

4. FLAA's criteria

It should also be emphasized that the FLAA must adhere to key testing criteria, such as standardization, reliability and validity, objectivity, and comprehensiveness of results.

Standardization in linguistic aptitude diagnostics involves aligning the evaluation procedures with generally accepted norms. This includes transforming a normalized scale of raw scores into a scoring scale (we selected a scale ranging from 0 to 180 points). The norms derived from the standardization process represent a system of scales with corresponding scores, which facilitate subsequent grouping of applicants according to language proficiency based on their performance.

Reliability and validity of the diagnostics are ensured by the stability of test results against various random interfering factors. Measurement precision is assessed using statistical correlation methods embedded within the testing software.

To implement the principle of validity, expert evaluation of test tasks is employed. This involves: engaging subject matter experts to verify the alignment of test items with academic standards; conducting pilot testing of the tasks prior to official use; analyzing the correlation

between test results and applicants' subsequent academic success; incorporating speech situations that closely simulate real-life learning or professional contexts.

These measures ensure that the testing system not only meets scientific and pedagogical standards but also serves as a reliable instrument for the objective evaluation and selection of future specialists.

5. Advantages and disadvantages of the Moodle-based FLAA

Among the main advantages of the chosen Moodle platform, on which the FLAA is conducted, is its functionality as a powerful tool for electronic testing. Moodle offers a wide range of features, such as a large selection of tools for uploading materials and tasks (including video and audio files); cost-effectiveness (no need for paper-based resources); access at any time; asynchronous testing (participants can complete tasks at their own pace); administration tools (allowing administrators to monitor test results); objective scoring (automatic calculation of points and percentages by the system), and more.

The principle of objectivity aims to minimize subjective influence during the assessment of language test results. Regardless of the personal characteristics of the test administrator or the test-taker, results must be as accurate and unbiased as possible. Ways to ensure objectivity include: using standardized tests with clearly defined assessment criteria; automated testing using platforms such as Moodle or Proctorio; anonymous assessment, which avoids personal bias by evaluating work without revealing test-takers' identities.

However, the assessment of speaking skills remains partly subjective due to the difficulty of standardizing spoken language performance. Factors such as emotional state or health may affect outcomes. There is also a risk of technical errors during automated testing. Therefore, it is recommended to apply combined methods that integrate automation with expert evaluation.

Among some of the disadvantages of FLAA, taking into consideration the war time peculiarities: the ongoing internet (hard to guarantee due to blackouts); need for highly qualified test specialists (the number of qualified personnel is always limited); reduced performance of test-takers due to the test time limitation and such force majeure as air raid alerts etc.

Conclusions

The FLAA is a vital component of the admission process to HMEI, especially for programs requiring intensive language training. This analysis presents a well-structured and theoretically informed approach to the development and implementation of the FLAA for prospective military specialists in Ukraine. By integrating principles from linguistics (e.g., the nature of linguistic skills, language performance analysis), psychology (e.g., motivation, cognitive abilities, memory), and pedagogy (e.g., assessment principles, learning management systems), this studying provides a robust framework for identifying individuals with a high potential for foreign language acquisition.

The emphasis on key testing criteria such as validity and reliability, alongside practical considerations like cost-efficiency and the use of a digital platform like Moodle, demonstrates a commitment to creating a fair, reliable, efficient, and scalable assessment system. Adhering to these principles ensures an objective selection of candidates. Also, the importance of the tester's role is emphasized as pivotal in the testing process. Furthermore, the explicit consideration of the wartime context, including challenges related to the FLAA organization, highlights the specific circumstances under which this assessment will be conducted.

The article effectively bridges the gap between theoretical constructs of language aptitude and the practical exigencies of military training in a multilingual and international environment. The proposed FLAA, grounded in established scientific principles and tailored to the specific needs of HMEI, represents a crucial step towards enhancing the linguistic preparedness of future Ukrainian military specialists, ultimately contributing to their professional effectiveness and the nation's

defense capabilities. The call for a balanced approach that combines automated testing with expert evaluation, particularly for assessing productive skills, underscores a nuanced understanding of the complexities inherent in language assessment.

Prospects for Further Research

This foundational research, however, leads to several compelling prospects for future research aimed at implementing and empirically validating the proposed FLAA framework.

The immediate next step involves the detailed development and specification of the FLAA model itself. While the article provides a conceptual outline, future research must articulate a clear and comprehensive model that delineates the specific components of linguistic aptitude considered critical for military personnel. Subsequently, specific task designs must be elaborated, detailing the format, content, and cognitive demands of each assessment item intended to elicit specific facets of linguistic aptitude, ranging from phonological and grammatical sensitivity to rote learning and inductive language learning abilities. Crucially, the development of clear and objective scoring rubrics for each task is paramount to ensure the reliability and facilitate the quantitative analysis of test performance.

Building upon this detailed model, future research must then focus on the methodological aspects of implementing and validating the FLAA. This includes a precise specification of participant selection procedures, standardized test administration protocols (mindful of the wartime context and potential disruptions), and the methods for data collection. However, the basis of future research lies in the experimental validation of the FLAA's effectiveness. Rigorous empirical studies are essential to demonstrate the assessment's predictive power and construct validity. This will involve conducting pilot studies to refine the instrument, followed by comprehensive reliability analyses to ensure internal consistency and temporal stability. Furthermore, various validity studies, including predictive, construct, content, and criterion-related validity, must be undertaken to provide evidence that the FLAA accurately measures the intended constructs and effectively predicts future success in FL learning within the military educational context. Investigating differential validity across various applicant subgroups will also be crucial to ensure fairness and equity.

In conclusion, while the article provides a robust theoretical framework for the FLAA, its practical utility and scientific rigor are contingent upon rigorous empirical validation. Future research must prioritize the detailed specification of the FLAA model, the articulation of a sound methodology for its implementation, and, most importantly, the experimental proving of its reliability and predictive validity. Only through such systematic investigation the FLAA can be established as a scientifically sound and practically valuable tool for Ukrainian HMEI, ultimately contributing to the enhanced linguistic preparedness of future military specialists in a complex and increasingly multilingual world.

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