

**FUNCTIONAL-SEMANTIC DESCRIPTION OF NON-STANDARDIZED MEASURING
EXPRESSIONS IN THE UZBEK LANGUAGE**

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Boboyeva Muazzam Narimonovna

Teacher of namangan state institute of foreign languages

muazzam.boboeva89@gmail.com

Abstract: *This article presents a comprehensive functional-semantic analysis of non-standardized measuring expressions in the Uzbek language. Non-standardized measurements, deeply rooted in traditional culture and everyday communication, represent a significant yet understudied aspect of Uzbek linguistic practice. The study examines the structural characteristics, semantic features, and functional properties of these expressions, which include body-part measurements, container-based quantities, and experiential descriptors. Through corpus analysis and ethnolinguistic investigation, the research identifies key patterns in the usage of non-standardized measuring expressions across different communicative contexts. The findings reveal that these expressions serve not only as practical measuring tools but also as carriers of cultural knowledge and cognitive models. The article explores the relationship between standardized and non-standardized measuring systems, highlighting the contexts in which traditional measurements persist despite the dominance of metric standards. This research contributes to broader discussions on linguistic diversity, cultural preservation, and the interface between language and cognition in measurement conceptualization.*

Keywords: *non-standardized measurements, measuring expressions, Uzbek language, functional-semantic analysis, ethnolinguistics, traditional measurements, cognitive linguistics, cultural semantics*

INTRODUCTION

Measurement expressions constitute a fundamental component of human communication, enabling speakers to quantify, compare, and describe the physical world. While standardized measurement systems—particularly the metric system—dominate formal discourse, non-standardized measuring expressions remain prevalent in everyday communication across many languages. The Uzbek language, with its rich cultural heritage and diverse linguistic traditions, presents a particularly interesting case for examining how non-standardized measurements function within contemporary linguistic practice.

Non-standardized measuring expressions in Uzbek encompass a wide range of units based on body parts (qarich 'span', tirsak 'cubit'), containers (piyola 'teacup', chelak 'bucket'), natural phenomena, and experiential reference points. These expressions, transmitted through generations, reflect traditional ways of conceptualizing and

communicating quantity. Despite the widespread adoption of standardized measurements in official contexts, non-standardized expressions persist in markets, households, agricultural settings, and informal discourse, serving both practical and socio-cultural functions.

The systematic investigation of non-standardized measuring expressions offers valuable insights into the relationship between language, culture, and cognition. Such expressions reveal how communities organize quantitative experience, preserve traditional knowledge, and maintain cultural identity through linguistic practice. Furthermore, the functional-semantic analysis of these expressions contributes to our understanding of measurement as a cognitive domain shaped by both universal principles and culture-specific patterns.

This study aims to provide a detailed functional-semantic description of non-standardized measuring expressions in contemporary Uzbek, addressing the following research questions:

1. What are the primary structural and semantic categories of non-standardized measuring expressions in Uzbek?
2. How do these expressions function in different communicative contexts?
3. What cognitive and cultural models underlie non-standardized measurement conceptualization?
4. What is the relationship between standardized and non-standardized measuring systems in current usage?

Theoretical Framework and Methodology. This research adopts a functional-semantic approach that examines both the formal properties and the contextual usage of measuring expressions. Functional linguistics emphasizes how language serves communicative purposes in social contexts, while semantic analysis investigates meaning construction and conceptualization. The integration of these perspectives enables a comprehensive understanding of how non-standardized measurements operate as linguistic and cultural phenomena.

The functional dimension of analysis considers:

- Communicative functions: How measuring expressions serve practical, social, and expressive purposes
- Discourse contexts: The situations and genres in which specific expressions are preferred
- Pragmatic factors: The social relationships and cultural norms influencing measurement choice

The semantic dimension examines:

- Conceptual structures: The cognitive models organizing measurement knowledge
- Semantic fields: The relationships among different measuring expressions
- Metaphorical extensions: How measurement concepts are extended to abstract domains

Data Collection and Analysis

The study draws on multiple data sources to ensure comprehensive coverage of non-standardized measuring expressions:

1. Corpus analysis: Examination of written and spoken Uzbek texts, including literary works, journalistic materials, and recorded conversations
2. Ethnographic observation: Field research in markets, agricultural settings, and domestic environments where traditional measurements are commonly used
3. Lexicographic sources: Analysis of Uzbek dictionaries and specialized reference works

Speaker interviews: Consultation with native speakers across different age groups and regions to document usage patterns and semantic nuances

Data analysis proceeded through systematic coding of measuring expressions according to their structural properties, semantic characteristics, and functional patterns. Comparative analysis identified similarities and differences across measurement categories, while contextual examination revealed the pragmatic factors governing usage choices.

Categories of Non-Standardized Measuring Expressions Body-part measurements represent one of the most ancient and widespread categories of non-standardized expressions. These measurements utilize parts of the human body as reference points, reflecting the principle that the body provides an immediately available and universally accessible measuring instrument.

Principal body-part measurements in Uzbek:

- Qarich (span): The distance from the tip of the thumb to the tip of the little finger when the hand is fully extended. This measurement is commonly used for fabric, rope, and other linear materials. Example: Bir qarich mato 'one span of fabric'
- Tirsak (cubit): The distance from the elbow to the tip of the middle finger, traditionally used for measuring cloth and distance. Example: Ikki tirsak bez 'two cubits of cloth'
- Qari (fathom): The distance between the fingertips of outstretched arms, used particularly for measuring depth and large distances. Example: Uch qari chuqurlik 'three fathoms deep'
- Qadam (pace/step): A unit based on walking stride, used for measuring distance. Example: Yuz qadam narida 'a hundred paces away'
- Bo'y (height): Human height as a measuring unit, often used for describing depth or length. Example: Bir bo'y chuqur quduq 'a well one person-height deep'
- Barmoq (finger): Finger width as a small unit of measurement. Example: Ikki barmoq qalinlikda 'two fingers thick'

Functional characteristics:

Body-part measurements demonstrate several important functional properties. First, they provide approximate rather than precise quantification, which is often sufficient for

everyday purposes. Second, they create a direct, embodied connection between the measurer and the measured object. Third, they function effectively in contexts where standardized measuring tools are unavailable or impractical.

Semantic analysis:

These expressions reveal a conceptual model in which the human body serves as the prototype for understanding spatial extension. The semantic structure reflects a scale from smaller units (barmoq) to larger ones (qari), with intermediate stages corresponding to different body parts. This iconicity—where the size of the body part correlates with the magnitude of the measurement—facilitates cognitive processing and memory.

Container-Based Measurements

Container-based measurements utilize vessels and receptacles as units of quantity, particularly for substances that cannot be easily counted individually. These measurements are especially common in commercial transactions, cooking, and agriculture.

Primary container measurements:

- Piyola (teacup): A small bowl traditionally used for tea, serving as a unit for liquids and small quantities of grains or spices. Example: Bir piyola shakar 'one teacup of sugar'
- Choynak (teapot): Used for measuring larger quantities of liquids. Example: Ikki choynak suv 'two teapots of water'
- Chelak (bucket): A larger unit for water, milk, and other liquids. Example: Uch chelak suv 'three buckets of water'
- Qozon (cauldron): A very large cooking vessel used as a measurement unit for preparing food for many people. Example: Bir qozon osh 'one cauldron of pilaf'
- Xalta (sack/bag): Used for measuring grain, flour, and other dry goods. Example: Ikki xalta un 'two sacks of flour'
- Qop (large sack): A substantial unit for agricultural products. Example: Besh qop bug'doy 'five large sacks of wheat'
- Savat (basket): Used for fruits, vegetables, and other agricultural products. Example: Bir savat olma 'one basket of apples'

Functional distribution:

Container measurements show clear functional specialization according to domain. In culinary contexts, smaller units like piyola and choynak predominate, while agricultural and commercial contexts favor larger units like qop and chelak. This specialization reflects the practical requirements of different activities and the standardization of containers within specific domains.

Semantic structure:

The semantics of container measurements involves a metonymic relationship between the container and its contents. The container name shifts from denoting the object itself to representing the quantity it typically holds. This metonymy is so conventionalized that speakers may use the container term even when measuring with a different vessel of similar size.

Agricultural and Natural Measurements

Agricultural measurements derive from traditional farming practices and the natural environment, reflecting the close relationship between Uzbek culture and land cultivation.

Key agricultural measurements:

- Tanob (tanap): A traditional land measurement roughly equivalent to the area that can be plowed by a pair of oxen in one day (approximately 0.4 hectares). Example: Uch tanob yer 'three tanaps of land'
- Chorak (quarter): One-fourth of a tanap or other unit. Example: Bir chorak tanob bog' 'a quarter tanap of garden'
- Og'iz (mouth/opening): Used for irrigation water allocation, referring to the opening of a water channel. Example: Ikki og'iz suv 'two openings worth of water'
- Kun (day): Duration-based measurement for work and processes. Example: Uch kun ish 'three days of work'
- Mingli (thousand): A unit for counting seedlings or small plants. Example: Ikki mingli ko'chat 'two thousand-units of seedlings'

Natural reference measurements:

- Tosh otimi (stone's throw): Distance based on how far one can throw a stone. Example: Tosh otimi narida 'a stone's throw away'
- Tovush yetimi (within earshot): Distance at which sound can be heard. Example: Tovush yetimi masofada 'within hearing distance'
- Ko'z yetimi (within sight): Visible distance. Example: Ko'z yetimi joy 'as far as the eye can see'

Functional context:

These measurements function primarily in rural and agricultural contexts, where they remain highly practical despite the availability of standardized alternatives. They encode knowledge about land cultivation, water management, and natural processes that has accumulated over centuries. The persistence of these expressions in agricultural discourse demonstrates their continued relevance to traditional farming practices.

Cognitive basis:

Agricultural measurements reflect an experiential approach to quantification based on human labor capacity, natural cycles, and environmental features. The conceptual structure underlying these expressions integrates temporal, spatial, and activity-based dimensions, creating a holistic model of agricultural work.

Functional Analysis Non-standardized measuring expressions serve multiple communicative functions beyond simple quantification:

Practical function: The primary function is to convey quantity information in contexts where approximate measurement is sufficient. In markets, for example, vendors and customers frequently use expressions like bir hovuch 'one handful' or bir piyola 'one teacup' to negotiate quantities quickly without formal measuring instruments.

Social function: The use of traditional measurements can signal group membership, regional identity, and connection to cultural heritage. When speakers choose non-standardized expressions over metric equivalents, they often perform social identity work, positioning themselves as bearers of traditional knowledge or members of particular communities.

Aesthetic function: In literary and poetic contexts, non-standardized measurements contribute to stylistic effects, creating imagery grounded in bodily experience and traditional life. The expression *bir qari yorug'lik* 'a fathom of light' in poetry creates a vivid, embodied image impossible to achieve with standardized measurements.

Pedagogical function: Traditional measurements serve as teaching tools, conveying practical knowledge to younger generations. Learning to measure *bir qarich* 'one span' or estimate *bir tanob* 'one tanap' transmits both linguistic knowledge and practical skills.

Register and Style Variation

The distribution of non-standardized measuring expressions varies systematically across registers and styles:

Informal spoken discourse: Non-standardized expressions predominate in casual conversation, particularly when discussing domestic activities, traditional crafts, and agriculture. Example: *Bir piyola suv qo'sh* 'Add one teacup of water'

Formal written discourse: Standardized measurements are strongly preferred in official documents, scientific texts, and formal correspondence. Non-standardized expressions appear primarily in quoted speech or when describing traditional practices.

Literary language: Both standardized and non-standardized expressions occur, with the latter often chosen for stylistic effect, cultural authenticity, or character portrayal. Example: *Uch qadam narida turgan daraxt* 'The tree standing three paces away'

Commercial discourse: Markets and traditional commerce settings show high frequency of non-standardized expressions, particularly for produce, spices, and bulk goods. Example: *Bir xalta kartoshka* 'One sack of potatoes'

4.3 Pragmatic Factors

Several pragmatic factors influence the choice between standardized and non-standardized measuring expressions:

Precision requirements: When approximate quantification suffices, non-standardized expressions are preferred for efficiency. When precision is required (legal documents, scientific measurements), standardized units are obligatory.

Availability of measuring instruments: In contexts where standardized measuring tools are unavailable, body-part and container measurements provide practical alternatives.

Interlocutor relationships: Between speakers sharing traditional knowledge and cultural background, non-standardized expressions facilitate rapport and mutual understanding. In interactions across age groups or cultural contexts, standardized expressions may be preferred for clarity.

Object characteristics: The nature of what is being measured influences expression choice. Irregular, variable, or context-dependent quantities (e.g., bir hovuch o't 'a handful of grass') are more naturally expressed through non-standardized units.

5. Semantic Analysis Non-standardized measuring expressions involve complex metaphorical and metonymic processes:

Container-for-contents metonymy: Container measurements exemplify this basic metonymic pattern, where the container stands for its typical contents. This metonymy extends beyond simple substitution; the container term comes to represent a conventionalized quantity even when that specific container is not used.

Body-as-instrument metaphor: Body-part measurements reflect the conceptual metaphor THE BODY IS A MEASURING INSTRUMENT. This metaphor positions the human form as a natural, universally available tool for spatial quantification.

Experience-based measurement: Expressions like kun ish 'day of work' reflect the metaphor DURATION IS QUANTITY, where temporal extension becomes a measurement unit for labor or agricultural processes.

CONCLUSION

This functional-semantic analysis of non-standardized measuring expressions in Uzbek reveals a rich, systematic, and culturally significant linguistic domain. Far from being merely archaic or imprecise alternatives to standardized measurements, these expressions constitute a sophisticated system that:

1. Encodes cultural knowledge: Traditional measurements preserve information about historical practices, material culture, environmental adaptation, and social organization.

2. Reflects cognitive principles: The structure of these expressions demonstrates fundamental cognitive processes including embodied cognition, conceptual metaphor, metonymy, and schema-based understanding.

3. Serves communicative functions: Non-standardized measurements function effectively in contexts where approximate quantification suffices, tools are unavailable, or cultural authenticity is valued.

4. Maintains cultural identity: In an era of globalization and standardization, traditional measurements serve as markers of cultural distinctiveness and connection to heritage.

5. Demonstrates linguistic creativity: The semantic extensions and pragmatic flexibility of measuring expressions showcase speakers' creative adaptation of linguistic resources to communicative needs.

The coexistence of standardized and non-standardized measuring systems in contemporary Uzbek exemplifies how languages accommodate both innovation and tradition. While younger, urban, and educated speakers increasingly favor metric measurements in many contexts, traditional expressions persist in domains where they offer practical advantages or cultural resonance.

Future research should investigate several areas left unexplored in this study: regional variation in measuring expressions across Uzbek-speaking areas; the role of traditional measurements in specialized domains (traditional medicine, handicrafts); detailed corpus-based frequency analysis; and experimental studies of cognitive processing of different measurement types.

The documentation and analysis of non-standardized measuring expressions contribute to several scholarly conversations: linguistic anthropology's interest in language as cultural practice, cognitive linguistics' investigation of embodied and culturally-grounded cognition, and descriptive linguistics' goal of comprehensive language documentation. Such research also has practical applications in language teaching, translation, lexicography, and cultural preservation.

As standardization pressures increase globally, the detailed study of traditional measuring systems becomes increasingly urgent. These linguistic resources represent not merely alternative quantification methods but entire ways of being-in-the-world—embodied, culturally-informed, and ecologically-attuned approaches to understanding and communicating about physical reality. Their preservation and transmission constitute important goals not only for linguistic diversity but for the maintenance of cultural knowledge systems that may contain valuable insights for contemporary challenges.

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