
Comparative analysis of cognitive metaphors in English and Uzbek educational discourse

Akoburxanova Gulchexra

Master's student,
Uzbekistan State World Languages University

Annotation

This article presents a comprehensive comparative analysis of cognitive metaphors alongside semantic shifts and lexical evolution in English and Uzbek educational discourse. The study is grounded in conceptual metaphor theory developed by George Lakoff and Mark Johnson, as well as contemporary approaches in corpus linguistics and linguistic adaptation. It explores universal metaphorical models such as learning as a journey and mind as a container, while placing particular emphasis on two dominant conceptual frameworks: "Investment" and "Enlightenment". In addition, the research examines how educational terminology evolves under the influence of technological advancement, globalization, and cross-linguistic borrowing, drawing on data from modern linguistic corpora, including COCA. The findings reveal that English educational discourse tends to be pragmatic, goal-oriented, and economically framed, often reflecting the "investment" model, whereas Uzbek discourse demonstrates a stronger orientation toward spiritual, moral, and culturally embedded values associated with the "enlightenment" model. Furthermore, the study shows that while high-frequency lexical units remain relatively stable across both languages, the integration of loanwords and semantic adaptation follows systematic functional and contextual patterns shaped by digital environments. Overall, the research highlights the interaction between universal cognitive mechanisms and culturally specific linguistic realizations, offering a deeper understanding of how metaphor and lexical change jointly shape educational discourse in a cross-cultural perspective.

Keywords

Cognitive linguistics, conceptual metaphor, educational discourse, lexical evolution, semantic change, investment model, enlightenment model, cross-cultural analysis, terminology adaptation, corpus linguistics, COCA

Ingliz va o'zbek ta'limiy diskursida kognitiv metaforalarning qiyosiy tahlili

Akoburxanova Gulchexra

Magistrant,
O'zbekiston davlat jahon tillari universiteti

Annotatsiya

Ushbu maqola ingliz va o'zbek ta'limiy diskursida kognitiv metaforalar, semantik siljishlar hamda leksik evolyutsiyaning qiyosiy tahlilini taqdim etadi. Tadqiqot Jorj Lakoff va Mark Jonson tomonidan ishlab chiqilgan konseptual metafora nazariyasi, shuningdek, korpus lingvistikasi va lingvistik moslashuvning zamonaviy yondashuvlariga asoslanadi. Unda o'rganish – sayohat, ong – konteyner kabi universal metaforik modellarga e'tibor qaratilib, ayniqsa "Investitsiya" va "Ma'rifat (Enlightenment)" konseptual modellari alohida tahlil qilinadi. Bundan tashqari, tadqiqot ta'lim terminologiyasining texnologik taraqqiyot, globallashuv va tillararo o'zlashuv ta'sirida qanday rivojlanishini, jumladan, zamonaviy lingvistik korpuslar (COCA) asosida o'rganadi. Natijalar shuni ko'rsatadiki, ingliz ta'limiy diskursi

ko'proq pragmatik, maqsadga yo'naltirilgan va iqtisodiy yondashuvga ega bo'lib, "investitsiya" modelini aks ettiradi. O'zbek diskursi esa ko'proq ma'naviy, axloqiy va madaniy qadriyatlar bilan bog'liq bo'lib, "ma'rifat" modeliga yaqin turadi. Shuningdek, tadqiqot yuqori chastotali leksik birliklar nisbatan barqaror ekanini, biroq o'zlashma so'zlar va semantik moslashuv jarayonlari raqamli muhit ta'sirida tizimli va funksional qonuniyatlarga ega ekanini ko'rsatadi. Umuman olganda, tadqiqot universal kognitiv mexanizmlar va madaniy xususiyatlarga ega lingvistik ifodalar o'rtasidagi o'zaro bog'liqlikni ochib beradi.

Kalit so'zlar *Kognitiv lingvistika, konseptual metafora, ta'limiy diskurs, leksik evolyutsiya, semantik o'zgarish, investitsiya modeli, ma'rifat modeli, madaniyatlararo tahlil, terminologik moslashuv, korpus lingvistikasi, COCA*

Сравнительный анализ когнитивных метафор в английском и узбекском образовательном дискурсе

Акобурханова Гулчехра

*Магистрант,
Узбекский государственный университет
мировых языков*

Аннотация *В данной статье представлен сравнительный анализ когнитивных метафор, семантических сдвигов и лексической эволюции в образовательном дискурсе английского и узбекского языков. Исследование основано на теории концептуальной метафоры Джорджа Лакоффа и Марка Джонсона, а также на современных подходах корпусной лингвистики и лингвистической адаптации. Рассматриваются универсальные метафорические модели, такие как обучение как путешествие и разум как контейнер, с особым акцентом на концептуальные модели «Инвестиция» и «Просвещение». Кроме того, в работе анализируется, как образовательная терминология развивается под влиянием технологического прогресса, глобализации и межкультурных заимствований, с опорой на данные современных лингвистических корпусов, включая COCA. Результаты показывают, что английский образовательный дискурс носит более прагматичный, целенаправленный и экономически ориентированный характер, отражая модель «инвестиции», тогда как узбекский дискурс в большей степени связан с духовными, нравственными и культурными ценностями, соответствующими модели «просвещения». Также исследование демонстрирует, что высокочастотная лексика остается относительно стабильной, тогда как заимствования и семантическая адаптация следуют системным функциональным закономерностям, обусловленным цифровой средой. В целом работа подчеркивает взаимодействие универсальных когнитивных механизмов и культурно-специфических языковых реализаций в образовательном дискурсе.*

Ключевые слова *Когнитивная лингвистика, концептуальная метафора, образовательный дискурс, лексическая эволюция, семантические изменения, модель инвестиции, модель просвещения, межкультурный анализ, адаптация терминологии, корпусная лингвистика, COCA*

Introduction

In contemporary linguistics, metaphor is no longer regarded as merely a stylistic device, but as a fundamental mechanism of human cognition. The shift from traditional to cognitive approaches has significantly reshaped our understanding of how language reflects thought. According to George Lakoff and Mark Johnson (1980), the human conceptual system is inherently metaphorical in nature, meaning that abstract concepts such as knowledge, learning, and education are structured through more concrete domains grounded in physical and cultural experience.

At the same time, language itself is a dynamic system that continuously evolves under the influence of technological and social change. In educational discourse, this evolution is reflected not only in conceptual metaphors but also in lexical transformation and semantic shifts. As noted by Traugott and Dasher (2002), semantic change often follows patterns of subjectification, where expressions referring to external realities gradually come to represent internal cognitive processes.

Educational discourse thus provides a rich field for analyzing both cognitive and linguistic developments, as it involves complex abstract processes that require structured conceptualization. Teachers, students, and academic texts rely heavily on metaphorical language to explain and internalize knowledge, while simultaneously adapting terminology to modern digital environments. This study integrates conceptual metaphor theory with corpus-based analysis to examine how metaphorical models and lexical evolution interact in English and Uzbek, particularly through patterns of frequency, borrowing, and technological influence.

The aim of this study is to conduct a comparative analysis of cognitive metaphors in English and Uzbek educational discourse. The research seeks to identify both universal metaphorical patterns and culturally specific

conceptualizations, with particular emphasis on the metaphors of "Investment" and "Enlightenment."

Theoretical background

The conceptual metaphor theory developed by George Lakoff and Mark Johnson posits that metaphors are systematic mappings between a source domain and a target domain. These mappings are not random but grounded in human bodily experience and cultural context.

One of the key principles of this theory is that abstract thinking depends on concrete experience. For example, the metaphor "Learning is a journey" maps elements of physical movement (path, direction, obstacles) onto the process of acquiring knowledge.

In addition to structural metaphors, Lakoff and Johnson identify:

- *Orientational metaphors* (e.g., up-down, high-low);
- *Ontological metaphors* (e.g., mind as a container);
- *The Conduit Metaphor*, where communication is seen as transferring objects.

These theoretical constructs are essential for analyzing educational discourse in both English and Uzbek contexts.

Methodology

This study employs a qualitative comparative approach. Data were collected from:

English academic texts, lectures, and educational materials

Uzbek textbooks, pedagogical articles, and classroom discourse

The analysis focuses on identifying recurring metaphorical expressions and grouping them into conceptual categories. Special attention is given to culturally significant metaphors that shape educational thinking.

I. General metaphorical models in Education Discourse

One of the most universal metaphors in both English and Uzbek is the conceptualization of learning as a journey. In English, expressions such as "academic path," "learning journey," and "reach your goals" are common. These expressions emphasize progress, direction, and achievement.

Similarly, in Uzbek, phrases like "ilm yo'li," "bilim sari yo'l," and "cho'qqilarni zabt etish" reflect the same conceptual mapping. However, Uzbek discourse often places greater emphasis on perseverance and moral development during this journey.

- **Mind as a Container**

In English educational discourse, the mind is frequently conceptualized as a container:

- "fill your mind with knowledge"
- "store information"

This metaphor suggests that knowledge is an object that can be inserted and retained.

In Uzbek, while similar expressions exist, there is a stronger tendency to conceptualize the mind as dynamic:

- "*fikr rivojlanadi*" (*thought develops*)
- "*ong o'sadi*" (*mind grows*)

- **Teacher as a Guide**

In English:

- "guide students"
- "facilitate learning"

In Uzbek:

- "*ustoz – yo'l ko'rsatuvchi*"
- "*ustoz – tarbiyachi*"

The Uzbek model reflects a deeper cultural respect for teachers as moral authorities.

II. The "Investment" metaphor: Education as an Economic Resource

- **Conceptual Basis**

The metaphor "Education is an investment" originates from the broader conceptual metaphor "Time is a money". In modern English discourse, education is often framed in economic terms:

- "invest in your education";
- "return on investment";
- "career capital".

This reflects a utilitarian and goal-oriented approach to learning.

- **Uzbek Context**

In Uzbek discourse, the metaphor "Bilim – bu sarmoya" has become increasingly common, particularly in post-independence socio-economic conditions. Expressions such as:

- "Vaqtingni ilmga sarfla";
 - "Kelajaging uchun bilimga sarmoya qil"
- demonstrate the integration of economic thinking into education.

However, unlike English discourse, Uzbek usage often combines economic value with moral responsibility toward family and society.

III. The "Enlightenment" metaphor: Knowledge as light

- **Understanding is Seeing**

Another fundamental metaphor is UNDERSTANDING IS SEEING. In English:

- "I see your point";
- "shed light on a topic".

In Uzbek:

- "*ilm – nur*";
- "*ma'rifat ziyosi*".

Knowledge is associated with illumination, clarity, and truth.

- **Cultural Significance**

In Uzbek culture, light carries strong spiritual and historical connotations. Education is not only a means of acquiring information but also a path to moral and intellectual enlightenment.

Teachers are often metaphorically described as:

- "*mash'ala*" (torch)
- "*ziyo tarqatuvchi*" (spreader of light)

- **Orientational Metaphors**

Both languages use vertical metaphors:

English: "*higher education*," "*top performance*"

Uzbek: "*yuksak ma'rifat*," "*cho'qqilar*"

This reflects the universal metaphor 'Good is up' and 'Knowledge is up'.

IV. Systematicity in Educational Metaphors

- **The Conduit Metaphor**

Communication is conceptualized as transferring objects:

- English: “get the idea across”
- Uzbek: “yetkazib berish”

- **Knowledge as a Structure**

Both languages use construction metaphors:

- “build knowledge”
- “bilim poydevori”

These metaphors emphasize organization and logical development.

V. **Comparative analysis and discussion**

The comparative analysis reveals both universal and culture-specific features:

1. **Universal Patterns:**

- Learning as progress
- Knowledge as a transferable entity
- Understanding as perception

2. **Cultural Differences**

English discourse:

- Pragmatic
- Economic orientation
- Focus on efficiency and results

Uzbek discourse:

- Spiritual and moral orientation
- Emphasis on enlightenment
- Cultural respect for teachers

This contrast reflects broader differences in worldview and educational philosophy.

Discussion

I. **Lexical Stability and Frequency of Use**

The rate at which educational terms evolve is closely tied to their frequency of use. Research by Pagel, Atkinson, and Meade (2007) demonstrates that high-frequency words in Indo-European and other language families undergo slower rates of lexical evolution. In the educational context, fundamental terms such as “learn” or “teach” exhibit high stability over centuries. However, less frequent technical terms are more susceptible to rapid replacement or semantic narrowing as new educational methodologies emerge (Pagel et al., 2007; 718).

II. **Corpus-Based Evidence of Modern Shifts**

The analysis of the Corpus of Contemporary American English (COCA) provides empirical evidence for the changing landscape of English educational discourse. Davies (2008) notes a significant increase in collocations involving digital terminology and traditional educational nouns. Terms such as “synchronous,” “platform,” and “hybrid” have shifted from specialized technical registers to the core of general educational vocabulary. This data suggests that the modern discourse is increasingly defined by the practicalities of digital delivery and information management (Davies; 2008).

III. **Loanword Integration and Technological Pressure**

The impact of the Internet has accelerated the integration of English loanwords into other languages, including Russian and Uzbek. Dickey (2012) emphasizes that the integration of these loanwords is not merely a matter of lexical borrowing but involves a complex process of semantic adaptation within the local linguistic ecology. In the Uzbek context, Mustaqimova G. (2020) observes that the adaptation of English terminology in computer technology and education often occurs through semantic calquing and direct borrowing. Words like “browser,” “module,” and “online” have become indispensable in Uzbek educational settings, reshaping the traditional terminological framework (Mustaqimova, 2020; 46).

IV. **Terminological Development in Uzbek Linguistics**

The formation of a stable terminology in Uzbek remains a central challenge for modern linguistics. Mamatov and Nurmatov (2021) argue that the development of educational terms must balance the preservation of national linguistic identity with the necessity of global integration. Their study highlights that the rapid influx of international terms requires a systematic approach to ensure that the Uzbek lexicon remains functional and precise in describing emergent educational

phenomena (Mamatov & Nurmatov, 2021; 165).

Conclusion

This study demonstrates that cognitive metaphors play a crucial role in structuring educational discourse in both English and Uzbek. While many metaphorical models are universal, their cultural realization differs significantly. The "Investment" metaphor reflects the pragmatic and goal-oriented nature of education, whereas the "Enlightenment" metaphor emphasizes its moral, spiritual, and culturally embedded dimensions.

At the same time, the analysis reveals that educational discourse is undergoing a profound transformation under the influence of digitalization and globalization. Core

educational concepts tend to remain stable due to their high frequency of use, while peripheral terminology evolves rapidly through cross-linguistic borrowing and semantic subjectification. These processes show that metaphorical thinking and lexical change are interconnected in shaping modern educational language.

Understanding these patterns is essential for effective cross-cultural communication, language teaching, curriculum development, and linguistic policy. Future research may further explore the impact of cognitive metaphors and lexical evolution on student motivation, learning outcomes, and the development of digital educational environments.

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