

**ЧЕРКАСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ
ІМЕНІ БОГДАНА ХМЕЛЬНИЦЬКОГО
МІНІСТЕРСТВА ОСВІТИ І НАУКИ УКРАЇНИ**

Кафедра іноземних мов

**Методичні рекомендації
до самостійного вивчення іноземної мови
магістрантами педагогічних спеціальностей**



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«Методичні рекомендації» призначаються для самостійного вивчення дисципліни «Наукова комунікація іноземною мовою» магістрантами педагогічних спеціальностей. «Методичні рекомендації» включають зміст курсу, теми самостійної роботи, рекомендації щодо виконання певних завдань, семестрові завдання, граматичний довідник.

Тематика самостійної роботи відповідає програмі з іноземної мови для магістрантів педагогічних спеціальностей.

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I. Вступ.

Проблема підготовки фахівців, які б володіли іноземною мовою професійно, є однією з важливіших завдань професійної педагогіки вищої школи. Професійна самореалізація та відповідне життя індивіду здебільш залежить від його професійної компетенції, вміння адаптуватися, реалізовувати свої професійні здібності, нахили, інтереси, бути мобільним в професійному самовизначенні та кар'єрі. Іноземна мова наближує ситуацію навчального процесу до реальних умов, що породжує потребу в знаннях, їх практичному застосуванні й забезпечує персональну зацікавленість студентів, перехід від пізнавальної мотивації до професійної.

Навчальна дисципліна „Наукова комунікація іноземною мовою” є необхідною складовою частиною підготовки магістрантів спеціальностей. Дисципліна розрахована на магістрантів першого року навчання. Основна мета курсу – сформувати комунікативну спроможність в сфері професійного та наукового спілкування в усній і письмовій формах, вдосконалювати вміння користуватися широким тематичним словником засвоєної функціональної лексики за фахом, розширювати та збагачувати його. Активне використання навичок двостороннього перекладу, вміння використовувати різноманітні засоби читання для подальшої роботи з інформацією, навички аудіювання, реферування і анотування тексту, оволодіння новітньою фаховою інформацією через іноземні джерела також вдосконалюються у рамках курсу іноземної мови за професійним та науковим спрямуванням.

Основні завдання курсу:

1. Розвиток монологічного мовлення з використанням функціональної лексики професійного та наукового спілкування.
2. Розвиток непідготовленого діалогічного мовлення з використанням функціональної лексики та засвоєних граматичних конструкцій.
3. Вдосконалення навичок двостороннього усного перекладу в процесі ділових контактів та ділових зустрічей.
4. Вдосконалення навичок письмового перекладу та закріплення навичок аналізу граматичних і лексичних трансформацій при перекладі текстів за фахом.
5. Вдосконалення навичок ознайомчого та пошукового читання для подальшого використання отриманої інформації.
6. Вдосконалення навичок вивчаючого читання із використанням словника для подальшого розширення лексичного запасу за фахом.
7. Формування та розвиток вмінь реферування, анотування, складання резюме та аналізу текстів за фахом.
8. Розвиток навичок аудіювання англійського тексту.
9. Закріплення навичок ділового листування.

За підсумками вивчення курсу магістрант повинен знати функціональну лексику іноземної мови професійної та наукової тематики, що вивчається протягом року; граматичний матеріал в обсязі, передбаченому програмою курсу; основні принципи, методи та лінгвістичні особливості анотування та реферування текстів; принципи та план аналізу граматичних та лексичних трансформацій при перекладі текстів за фахом.

Студент повинен вміти аналізувати робочі ситуації та обмінюватися досвідом з основних аспектів спеціальності іноземною мовою, проводити обговорення проблем загальнонаукового та професійно-орієнтованого характеру, що має на меті досягнення порозуміння; перекладати з іноземної та на іноземну мову інформацію з використанням функціональної лексики за фахом; перекладати тексти у письмовій формі, використовуючи термінологічні двомовні словники, електронні словники; аналізувати граматичні та лексичні трансформації, що виникають при перекладі з іноземної мови та на іноземну мову, в залежності від цього правильно вибирати перекладацьку стратегію; робити аналітичне опрацювання іншомовних джерел з метою отримання інформації, що необхідна для вирішення певних завдань професійно-виробничої діяльності, реферувати та анотувати англomовні джерела за фахом, працювати з інформацією та обробляти інформацію; здійснювати ефективне слухання повідомлень на іноземній мові.

II. Самостійне вивчення дисципліни

Самостійна робота студентів є формою організації навчання, яка зв'язує усі блоки навчання та одночасно існує паралельно кожному з них. Самостійна робота – це процес відображення та перевтілення в свідомості студентів явищ об'єктивної дійсності. В цьому процесі самостійна робота студентів виступає як об'єкт діяльності (тобто навчальні завдання, які він мусить виконати) і як форма прояву певних дій в навчанні по виконанню цих завдань. Виходячи з цього, ми дотримуємося такого визначення самостійної роботи студентів – це запланована пізнавальна діяльність виконання творчих навчальних завдань різних видів, яка виконується самостійно з метою надбання знань, накопичення вмінь та навичок, досвіду творчої викладацької діяльності й вироблення професійно важливих якостей. Реалізація такої мети на практиці сприяє розв'язанню завдань інтеграції – повному злиттю навчання і виховання, здійсненню принципу розвиваючого навчання, формуванню особистості майбутнього фахівця.

Самостійна робота з іноземної мови вирішує такі завдання:

- удосконалення знань, навичок і вмінь набутих на практичних заняттях;
- розширення світогляду студентів;
- розвиток творчих здібностей, самостійності, естетичних смаків.

Ефективність навчальної діяльності залежить від готовності студента до самонавчання та його індивідуальних якостей. Здатність до самонавчання є однією з найважливіших передумов не тільки успішного оволодіння іноземною мовою, але й формування навичок самостійної діяльності взагалі. Лише готуючи здатну до самонавчання особистість можна реалізувати модель фахівця нового типу, орієнтованого до умов інформаційного суспільства та широких міжнародних контактів.

У процесі організації самостійної роботи з іноземної мови необхідно враховувати як психологічні особливості особистості, так і психологічні особливості колективу: рівень його розвитку, ступень організації, психологічної, інтелектуальної та емоційної єдності. Знання психологічних особливостей студентів – необхідна передумова успішного виконання вибору відповідних форм самостійної роботи, визначення змісту цих форм організації самостійної роботи. Результативність самостійної роботи з іноземної мови передбачає врахування таких аспектів в його організації, які забезпечують взаємодію взаємозумовлених факторів впливу на особистісний розвиток фахівця та формування його комунікативної компетенції, а саме: мотиваційного, ситуативного, комунікативного, особистого і діяльнісного.

Необхідною умовою організації самостійної роботи є формування особистісної значущості навчання, яка виникає у студента внаслідок його інтересу не тільки до змісту навчального матеріалу, а й самого процесу набуття знань. Для розвитку продуктивної самостійної роботи доцільно використовувати таку її організацію, яка поступово орієнтує студентів на підвищення автономії їхнього навчання.

Основними організаційними принципами самостійної роботи з іноземної мови є принципи урахування і розвитку індивідуальних особливостей та інтересів студентів, принципи комплексності, захопленості та розвитку ініціативи і самодіяльності.

Вимоги щодо організації самостійної роботи:

- інформативність і змістовність, які сприяють реалізації практичних та загальноосвітніх цілей;
- комунікативна спрямованість: усі види самостійної роботи повинні забезпечувати користування іноземною мовою як засобом одержання і передачі інформації в типових природних ситуаціях спілкування;
- ситуативність;
- орієнтація завдань на підвищення мовленнєвої активності студентів;
- емоційність форм і способів реалізації, що сприяє підвищенню інтересу студентів до іншомовної діяльності.

Центральною проблемою щодо організації самостійної роботи є проблема забезпечення високої внутрішньої мотивації до самостійного її опанування. Продуктивність самостійної роботи з іноземної мови залежить від психолого-педагогічних умов його організації: як мотивується навчально-пізнавальна діяльність студентів; як реалізується професійно-

комунікативна компетенція студента; як здійснюється контроль його навчальних досягнень.

Самостійна робота – це самостійна навчально-пізнавальна діяльність проблемного, творчого та практичного характеру. Самостійна робота базується на володінні студентами навичками та вміннями, набутими на практичних заняттях з іноземної мови, тому важливим є те, щоб студенти якнайповніше використовували ці навички та вміння під час самостійної роботи. Самостійна робота має позитивно впливати на навчальну діяльність студентів з іноземної мови.

Мета навчання іноземної мови за професійним спрямуванням полягає в формуванні необхідної комунікативної спроможності в своїй галузі. Студентам пропонуються різноманітні продуктивні вправи:

- 1) підбір та накопичення мовних засобів для вираження певних комунікативних намірів;
- 2) тлумачення мовних засобів;
- 3) складання глосаріїв;
- 4) творчі завдання, які пов'язані з текстом,
- 5) коментування подій та фактів;
- 6) формування ідей, які виражено у тексті неявно;
- 7) висловлювання свого ставлення до фактів і подій;
- 8) аргументація свого погляду щодо наведених у тексті тверджень;
- 9) обґрунтування висновків;
- 10) використання фактів з тексту для описуваного повідомлення.

III. Зміст курсу та теми до самостійної роботи

Згідно з робочою програмою з дисципліни на самостійну роботу студентів виносяться усні та письмові завдання для закріплення тем, опрацьованих на практичних заняттях.

Форми контролю:

- 1) усна (читання та переклад текстів, анотації, завдання з діалогічного та монологічного мовлення);
- 2) письмова (лексичні та граматичні вправи, складання термінологічних словників).

IV. Як самостійно працювати над темою

Якщо вам необхідно самостійно опрацювати тему, ми рекомендуємо вам працювати за такою схемою:

- Прочитайте и перекладіть основний текст теми.
- Випишіть незнайомі слова та словосполучення (попрацюйте зі словником).
- Виконайте лексичні вправи на ознайомлення та закріплення з новими

термінами та термінологічними словосполученнями.

- Дайте відповіді на запитання до тексту.
- Прочитайте граматичний матеріал до теми заняття.
- Виконайте граматичні вправи на автоматизацію дій з новими граматичними структурами.
- Запишіть свої запитання до викладача, якщо щось залишилося для вас нез'ясованим.

V. Як підготуватися до анотації статті

Якщо ви отримали завдання підготувати анотацію статті, ми рекомендуємо вам працювати за такою схемою:

1. Перегляньте англomовну газету в паперовому або електронному варіанті.
2. Виберіть статтю, заголовок якої здається вам цікавим.
3. Прочитайте статтю, користуючись словником та виписуючи невідомі слова та словосполучення.
4. Повторіть зразок для анотації статті.
5. Виберіть цитати з основною інформацією статті.
6. Проанотуйте статтю за зразком, використовуючи вибрані цитати в письмовій формі.
7. На подальших етапах, після ряду письмових анотацій, ви зможете анотувати статті і в усній формі.

VI. Як підготуватися до обґрунтування наукового дослідження

Якщо ви отримали завдання підготувати обґрунтування наукового дослідження, ми рекомендуємо вам працювати за такою схемою:

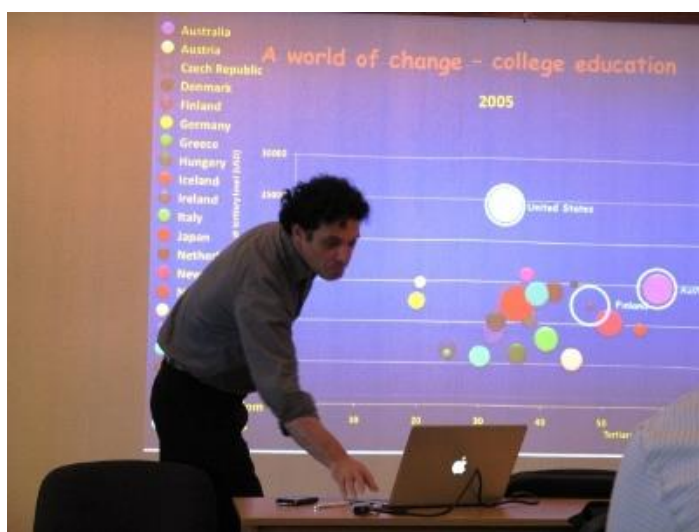
1. Прочитайте та перекладіть зразок для обґрунтування наукового дослідження.
2. Перегляньте вступ до магістерського дослідження.
3. Використовуючи речення-кліше зразку, перекладіть основну інформацію вступу до магістерської роботи.
4. Підготуйте обґрунтування наукового дослідження в друкованому варіанті.
5. Підготуйтеся до усної презентації обґрунтування.

VII. Семестрові завдання

Unit I

Lesson 1

Educational Measurement



Educational measurement refers to the use of educational assessments and the analysis of data such as scores obtained from educational assessments to infer the abilities and proficiencies of students. The approaches overlap with those in psychometrics. Educational measurement is the assigning of numerals to traits such as achievement, interest, attitudes, aptitudes, intelligence and performance.

The aim of theory and practice in educational measurement is typically to measure abilities and levels of attainment by students in areas such as reading, writing, mathematics, science and so forth. Traditionally, attention focuses on whether assessments are reliable and valid. In practice, educational measurement is largely concerned with the analysis of data from educational assessments or tests. Typically, this means using total scores on assessments, whether they are multiple choice or open-ended and marked using marking rubrics or guides.

1. Find the English equivalents in the text:

Освітнє оцінювання, зробити висновок про здібності та уміння, частково збігатися з психометрією, рівень досягнень, достовірне та дійсне оцінювання, бути пов'язаним з аналізом даних, використання орієнтирів.

2. Translate the following terms and terminological expressions:

Educational measurement, educational assessments, abilities and proficiencies, to measure abilities, levels of attainment, multiple choice, open-ended.

3. Answer the following questions:

1. What does educational measurement refer to?

2. What is the aim of educational measurement?
3. What does attention focus on in educational measurement?
4. What does educational measurement concerned with?

4. Find the definitions of the notions:

Achievement	the action or process of performing a task or function
Aptitude	the ability to learn or understand things
Intelligence	capability, ability; innate or acquired capacity for something, talent
Performance	something that has been done through effort: a result of hard work

5. Try to define the notions:

Assessment, proficiency, ability, theory, practice.

6. Read the model for an annotation of the article:

ANNOTATION

1. I have read the article in ... (“Digest”, “Art News”) .
2. It is ... (Ukrainian, British, American) ... (newspaper, magazine, journal).
3. The title of the article is
4. The author of the article is
5. The article considers the problem of
6. It gives ... (facts, photos, diagrams, schemes).
7. The author points out that
8. The article draws the readers' attention to the fact that
9. The author stresses that
10. The key problem of the article is ...
11. To my mind,
12. The article is worth reading because the problem discussed in the article is of great interest (informative, of good use).

Lesson 2

**Theory and
Techniques in
Educational
Measurement**

In technical terms, the pattern of scores by individual students to

individual items is used to infer so-called scale locations of students, the "measurements". This process is one form of scaling. Essentially, higher total scores give higher scale locations, consistent with the traditional and everyday use of total scores. If certain theory is used, though, there is not a strict correspondence between the ordering of total scores and the ordering of scale locations. The Rasch model provides a strict correspondence provided all students attempt the same test items, or their performances are marked using the same marking rubrics.

In terms of the broad body of purely mathematical theory drawn on, there is substantial overlap between educational measurement and psychometrics. However, certain approaches considered to be a part of psychometrics, including Classical test theory, Item Response Theory and the Rasch model, were originally developed more specifically for the analysis of data from educational assessments.

One of the aims of applying theory and techniques in educational measurement is to try to place the results of different tests administered to different groups of students on a single or common scale through processes known as test equating. The rationale is that because different assessments usually have different difficulties, the total scores cannot be directly compared. The aim of trying to place results on a common scale is to allow comparison of the scale locations inferred from the totals via scaling processes.

1. Find the English equivalents in the text:

З технічної точки зору, шкала рейтингу (місця), форма визначення шкали (шкалювання), вищі бали, відповідний, чітка відповідність, розподіл, істотний збіг (співпадіння), певний підхід, вводити різним групам, тест порівнювання, логічне обґрунтування, бути безпосередньо порівненим, дозволити порівняння.

2. Translate the following terms and terminological expressions:

Scale locations, form of scaling, total scores, purely mathematical theory, Classical test theory, Item Response Theory, the Rasch model, test equating.

3. Answer the following questions:

1. What is the aim of using the pattern of scores by individual students to individual items?
2. What scale locations do higher total scores give?
3. Is there a strict correspondence between the ordering of total scores and the ordering of scale locations?
4. What psychometrics approaches were originally developed more specifically for the analysis of data from educational assessments?
5. What is the aim of applying theory and techniques in educational measurement?

4. Read the text; put 4 questions to it; discuss it with your partner.

Classical test theory is a body of related psychometric theory that predicts outcomes of psychological testing such as the difficulty of items or the ability of test-takers. Generally speaking, the aim of classical test theory is to understand and improve the reliability of psychological tests.

Classical test theory may be regarded as roughly synonymous with *true score theory*. The term "classical" refers not only to the chronology of these models but also contrasts with the more recent psychometric theories, generally referred to collectively as item response theory, which sometimes bear the appellation "modern" as in "modern latent trait theory".

Classical test theory as we know it today was codified by Novick (1966) and described in classic texts such as Lord & Novick (1968) and Allen & Yen (1979/2002). The description of classical test theory below follows these seminal publications.

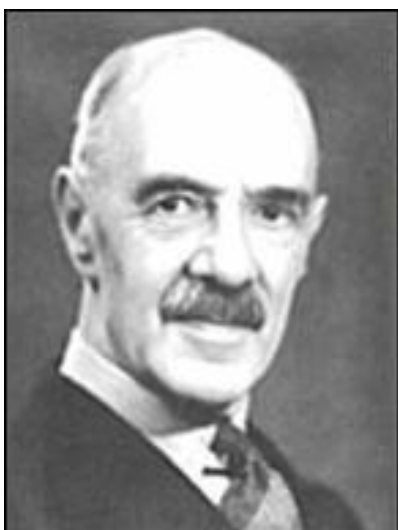
Classical Test Theory was born only after the following 3 achievements or ideas were conceptualized: 1) a recognition of the presence of errors in measurements, 2) a conception of that error as a random variable, 3) a conception of correlation and how to index it. In 1904,

Charles Spearman was responsible for figuring out how to correct a correlation coefficient for attenuation due to measurement error and how to obtain the index of reliability needed in making the correction. Spearman's finding is thought to be the beginning of Classical Test Theory by some (Traub, 1997). Others who had an influence in the Classical Test Theory's framework include: George Udny Yule, Truman Lee Kelley, those involved in making the Kuder-Richardson Formulas, Louis Guttman, and, most recently, Melvin Novick, not to mention others over the next quarter century after Spearman's initial findings.

5. Make an annotation of the article:

Charles Spearman

Thomson, Godfrey (1947). "Charles Spearman. 1863-1945"



Charles Edward Spearman (10 September 1863 – 17 September 1945) was an English psychologist known for work in statistics, as a pioneer of factor analysis, and for Spearman's rank correlation coefficient. He also did seminal work on models for human intelligence, including his theory that disparate cognitive test scores reflect a single General intelligence factor and coining the term *g* factor.

Spearman had an unusual background for a psychologist. In his childhood he was ambitious to follow an academic career. He first joined the army as a regular officer of engineers in the British Army. After

15 years he resigned to study for a PhD in experimental psychology.

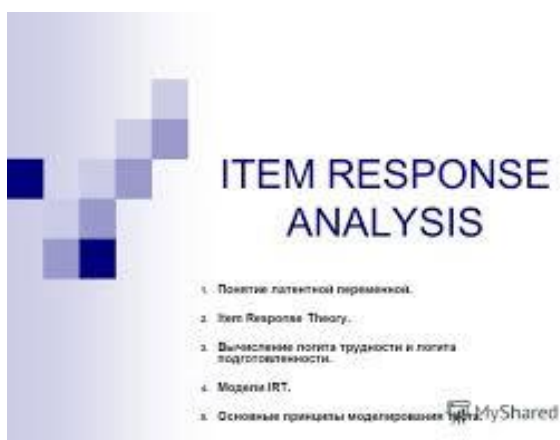
In Britain, psychology was generally seen as a branch of philosophy and Spearman chose to study in Leipzig under Wilhelm Wundt, because Spearman had no conventional qualifications and Leipzig had liberal entrance requirements. There he met Krueger and Wirth, both of whom he really admired. He started in 1897, and after some interruption (he was recalled to the army during the South African War) he obtained his degree in 1906. He had already published his seminal paper on the factor analysis of intelligence (1904).

Spearman met and impressed the psychologist William McDougall who arranged for Spearman to replace him when he left his position at University College London. Spearman stayed at University College until he retired in 1931. Initially he was Reader and head of the small psychological laboratory. In 1911 he was promoted to the Grote professorship of the Philosophy of Mind and Logic. His title changed to Professor of Psychology in 1928 when a separate Department of Psychology was created.

Factor analysis is a statistical test that is used to find relationships between multiple correlated measures and Spearman played a clear part in its development. Spearman coined the term factor analysis and used it extensively in analyzing multiple measures of cognitive performance. It was factor analytic data which led Spearman to postulate his original general and specific factor models of ability. Spearman applied mathematical procedures to psychological phenomena, and molded the outcome of his analysis into a theory – which has greatly influenced modern psychology. Factor analysis and its modern relations confirmatory factor analysis and structural equation modelling underlie much of modern behaviour research.

Lesson 3

Item Response Theory



In psychometrics, **item response theory (IRT)** also known as **latent trait theory**, **strong true score theory**, or **modern mental test theory**, is a paradigm for the design, analysis, and scoring of tests, questionnaires, and similar instruments measuring abilities, attitudes, or other variables. Unlike simpler alternatives for creating scales evaluating questionnaire responses it does not assume that each item is equally difficult. Item

response theory treats the difficulty of each item (the ICCs) as information to be incorporated in scaling items.

It is based on the application of related mathematical models to testing data. Because it is generally regarded as superior to classical test theory, it is the preferred method for developing scales, especially when optimal decisions are demanded.

The name *item response theory* is due to the focus of the theory on the item, as opposed to the test-level focus of classical test theory. Thus IRT models the response of each examinee of a given ability to each item in the test. The term *item* is generic: covering all kinds of informative item. They might be multiple choice questions that have incorrect and correct responses, but are also commonly statements on questionnaires that allow respondents to indicate level of agreement or patient symptoms scored as present/absent, or diagnostic information in complex systems.

IRT is based on the idea that the probability of a correct/keyed response to an item is a mathematical function of person and item parameters. The person parameter is construed as (usually) a single latent trait or dimension. Examples include general intelligence or the strength of an attitude. Parameters on which items are characterized include their difficulty (known as "location" for their location on the difficulty range), discrimination (slope or correlation) representing how steeply the rate of success of individuals varies with their ability, and a pseudoguessing parameter, characterising the (lower) asymptote at which even the least able persons will score due to guessing (for instance, 25% for pure chance on a multiple choice item with four possible responses).

1. Find the English equivalents in the text:

Анкета, змінна величина, припускати, розглядати труднощі, бути включеним, пункт шкалювання, загальний термін, ймовірність правильної відповіді, тлумачитися (пояснюватися), прихована риса.

2. Translate the following terms and terminological expressions:

Scoring of tests, scaling items, developing scales, test-level focus, multiple choice question, incorrect and correct responses, to indicate level of agreement, mathematical function, difficulty range, correlation, pseudoguessing parameter, asymptote.

3. Answer the following questions:

1. What does item response theory mean in psychometrics?
2. What is the theory based on?
3. What does the theory focus on?
4. What does the term item mean?
5. What idea is IRT based on?
6. What parameters characterize items?

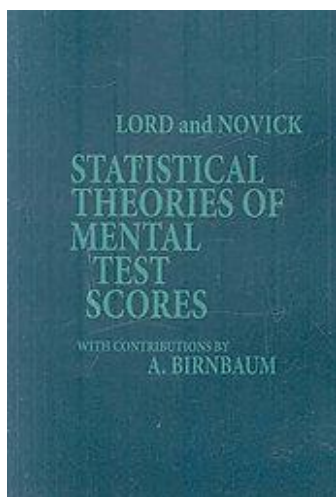
4. Make a summary of the text.

5. Make an annotation of the article.

Frederic Lord

By *JACQUES STEINBERG*

Published: February 10, 2000



Frederic Lord, a mathematician whose doctoral work at Princeton a half-century ago laid the foundation for scoring the fill-in-the-bubble examinations that have tormented generations of No. 2-pencil-wielding applicants to colleges and graduate schools, died on Saturday at a nursing home in Naples, Fla. He was 87, and had lived in Naples since 1993.

Dr. Lord joined the fledgling Educational Testing Service, the developer of the College Board exams, in March 1949 as director of statistical analysis. He stayed for 33 years.

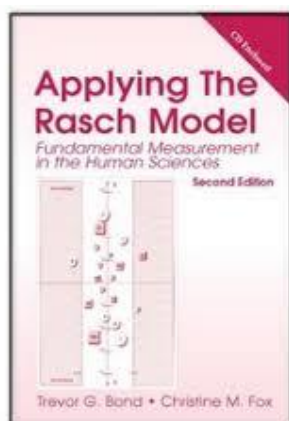
Dr. Lord did not write test questions. What he did, first as a graduate student at Princeton and later at the testing service, was devise a trailblazing mathematical model that enabled test writers to categorize particular questions, based on their difficulty. Among the ripples from his research were formulas that have allowed the testing service to compare student performance on a range of questions on multiple versions of the SAT in one year.

In seeking to explain the magnitude of Dr. Lord's ideas, which came to be known as Item Response Theory, Martha Stocking, a principal research scientist at the testing service since 1967, used a staple of the College Board exams: an analogy.

Frederic Mather Lord was born on Nov. 12, 1912, in Hanover, N.H. His father, Frederick Pomeroy Lord, was a professor of anatomy at the Dartmouth Medical School. His great-great grandfather, Nathan Lord, was Dartmouth College's sixth president, serving from 1828 to 1863.

Dr. Lord graduated from Dartmouth in 1936, with a bachelor's degree in sociology. What followed was a period of some aimlessness, in which he moved to the Midwest to explore a career as a novelist. But he ultimately landed at the University of Minnesota, where he earned a master's degree in educational psychology and where his interest in test theory was ignited.

Dr. Lord was the author or a contributor to more than 100 books or papers. In 1958, he expanded his dissertation into the book "Statistical Theories of Mental Test Scores," written with Melvin R. Novick, which was regarded as another milestone in test theory.



Lesson 4

The Rasch Model

The **Rasch model**, named after Georg Rasch, is a psychometric model for analyzing categorical data, such as answers to questions on a reading assessment or questionnaire responses, as a function of the trade-off between (a) the respondent's abilities, attitudes or personality traits and (b) the item difficulty. For example, they may be used to estimate a student's reading ability, or the extremity of a person's attitude to capital punishment from responses on a questionnaire. In addition to psychometrics and educational research, the Rasch model and its extensions are used in other areas, including the health profession and market research because of their general applicability.

The mathematical theory underlying Rasch models is a special case of item response theory and, more generally, a special case of a generalized linear model. However, there are important differences in the interpretation of the model parameters and its philosophical implications that separate proponents of the **Rasch model** from the item response modeling tradition. A central aspect of this divide relates to the role of specific objectivity, a defining property of the Rasch model according to Georg Rasch, as a requirement for successful measurement.

1. Find the English equivalents in the text:

Категоріальні дані, завдання з читання, функція компромісу, ставлення до смертної кари, філософське значення, прихильники, специфічна об'єктивність.

2. Translate the following terms and terminological expressions:

Psychometric model, questionnaire responses, market research, response theory, linear model, successful measurement.

3. Answer the following questions:

1. What is the Rasch model?
2. What areas is the model used in?
3. What is the mathematical theory underlying Rasch model?
4. What is the central aspect that separates proponents of the Rasch model from the item response modeling tradition?

4. Make a summary of the text.



Georg Rasch (1901-1980)

5. Make an annotation of the article:

Georg Rasch

Lina Wøhlk Olsen, Essays on Georg Rasch and his contributions to statistics

Georg Rasch (21 September 1901 - 19 October 1980) was a Danish mathematician, statistician, and

psychometrician, most famous for the development of a class of measurement models known as Rasch models. He studied with R.A. Fisher and also briefly with Ragnar Frisch, and was elected a member of the International Statistical Institute in 1948.

In 1919, Rasch began studying mathematics at the University of Copenhagen. He completed a masters degree in 1925 and received a doctorate in science with thesis director Niels Erik Nørlund in 1930. Rasch married in 1928. Unable to find work as a mathematician in the 1930s, he turned to work as a statistical consultant. In this capacity he worked on a range of problems, including problems of biological growth.

Georg Rasch is best known for his contributions to psychometrics. His work in this field began when he used the Poisson distribution to model the number of errors made by students when reading texts. He referred to the model as the multiplicative Poisson model.

He later developed the Rasch model for dichotomous data, which he applied to response data derived from intelligence and attainment tests including data collected by the Danish military. At the same epoch, American scientists independently developed item response theory (IRT). Within IRT, the Rasch model is one of the most simple response models. In contrast to other simple models, the Rasch model has a distinctive mathematical property: the model parameters (item difficulties, examinee ability) are sufficient statistics. Rasch demonstrated that his approach met criteria for measurement deduced from an analysis of measurement in the physical sciences. He also proposed generalizations of his model (Rasch, 1960/1980, 1977).

Today, the Rasch model is used extensively in assessment in education and educational psychology, particularly for attainment and cognitive assessments.

Lesson 5

Educational Measurement and its Professionals



Educational measurement is the science underlying the valid and reliable assessment of teaching and learning for individuals in grades K through 12 (a term for the sum of primary and secondary education), higher education, and certain professions, such as for licensing and certification. The science of educational measurement is called psychometrics and the people who work in this field are called psychometricians. It is critical that assessments are carefully designed and that results are interpreted accurately and used properly.

Measurement professionals come from a variety of educational backgrounds—psychology, sociology, mathematics, K–12 education, and health-related fields—as well as the field of measurement itself. In all cases, graduate training is a must. Graduate programs in education or psychology with a concentration in measurement are a popular route to a career in psychometrics, as are programs in curriculum and instruction or educational psychology. Many professionals develop an interest in measurement through academic work involving measurement applications, such as education, the behavioral sciences, medicine, or business. Approximately 80 graduate schools in the United States offer advanced degrees in educational measurement or a related field.

1. Find the English equivalents in the text:

Достовірна та надійна оцінка, бути вирішальним, точно інтерпретувати, використовувати належним чином, необхідність (нагальна потреба), програми у навчальному плані, суміжні галузі.

2. Translate the following terms and terminological expressions:

Licensing, certification, psychometrics, psychometrician, measurement professional, psychology, sociology, mathematics, health-related fields, educational psychology, behavioral sciences.

3. Answer the following questions:

1. What is educational measurement?
2. How is it called?
3. What is critical as to the assessment?
4. What is educational background of a measurement professional?
5. What is a popular route to a career in psychometrics?

4. Make a summary of the text.

5. Make an annotation of the article:

Melvin R. Novick (1932-1986)

By Angoff, William H.

American Psychologist, Vol 42(7), Jul 1987, 754.

Melvin Robert Novick was born in Chicago, Illinois, September 21, 1932, and died in Princeton, New Jersey, May 20, 1986. His degrees were B.A., 1957, B.S., 1959, and M.A., 1959, all at Roosevelt University, and Ph.D., University of North Carolina, 1963. Novick's positions included the Educational Testing Service (ETS), 1963-1970, and the University of Iowa from 1970 to his death. From 1970 to 1974 he had a joint appointment with the American College Testing Program (ACT). At Iowa he was professor of education and statistics.

Mel Novick's contributions to psychology and measurement are well known and numerous. He was a scholar who insisted that theory must influence practice, and he committed himself to that end. Novick was frequently called on for his advice in measurement and in statistics generally and was known nationally and internationally as a person of exceptional competence in this field. He coauthored books on test theory, statistical methods for psychological research, and Bayesian statistics. His crowning achievement, however, was the production of the 1985 Standards for Educational and Psychological Testing. Bayesian statistics was seen as a powerful scientific tool that allows educational researchers to have a better understanding of their data.

Melvin R. Novick Award in Educational Measurement and Statistics is presented annually to a doctoral student who has shown outstanding academic performance and promise of the highest level of achievement in research in the field of educational measurement and research.

6. Make an annotation of the article:

Thomas Bayes

McGrayne, Sharon Bertsch. (2011). *The Theory That Would Not Die* p. 10



Thomas Bayes (/ˈbeɪz/1701-1761) was an English statistician, philosopher and Presbyterian minister, known for having formulated a specific case of the theorem that bears his name: Bayes' theorem. Bayes never published what would eventually become his most famous accomplishment; his notes were edited and published after his death by Richard Price.

Thomas Bayes was the son of London Presbyterian minister Joshua Bayes, and was possibly born in Hertfordshire. He came from a prominent nonconformist family from Sheffield. In 1719, he enrolled at the University of Edinburgh to study logic and theology. On his return around 1722, he assisted his father at the latter's chapel in London before moving to Tunbridge Wells, Kent, around 1734. There he was minister of the Mount Sion chapel, until 1752.¹

It is speculated that Bayes was elected as a Fellow of the Royal Society in 1742 on the strength of the *Introduction to the Doctrine of Fluxions*, as he is not known to have published any other mathematical works during his lifetime.

In his later years he took a deep interest in probability. Professor Stephen Stigler, historian of statistical science, thinks that Bayes became interested in the subject while reviewing a work written in 1755 by Thomas Simpson, but George

Alfred Barnard thinks he learned mathematics and probability from a book by Abraham de Moivre. His work and findings on probability theory were passed in manuscript form to his friend Richard Price after his death.

Unit II

Lesson 1

Read, translate and remember the model for the research substantiation.

Substantiation

The **theme** of the research is ...

The **topicality** of the research is stipulated by...

The **object** of the research is ...

The **subject** matter of the research is ...

The **goal** of the research is ...

To achieve the goal set we have to solve the following **tasks**:

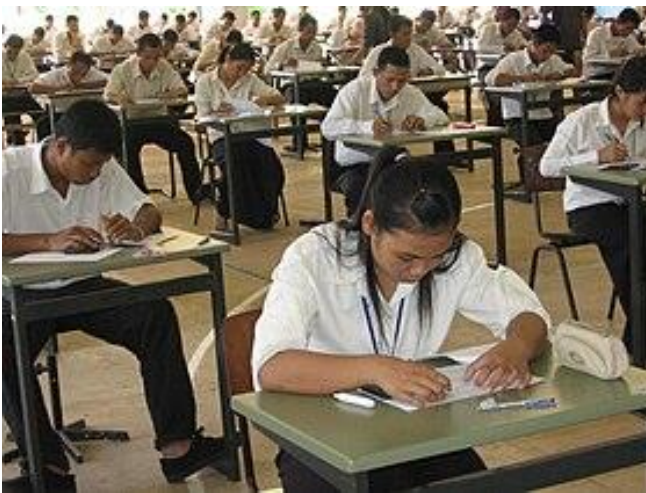
- to determine...
- to find...
- to investigate...
- to substantiate...

To solve these concrete tasks the following **methods** of the scientific investigation will be applied:

- the method of comparative analysis;
- the method of functional analysis;
- the method of typological analysis;
- the method of statistics analysis.

The **scientific significance** of the research is determined by ...

The **practical application** of the research is based on the possible usage of the obtained data for ...



Test and Assessment

A test or examination (informally, exam) is an assessment intended to measure a test-taker's knowledge, skill, aptitude, physical

fitness, or classification in many other topics (e.g., beliefs). A test may be administered orally, on paper, on a computer, or in a confined area that requires a test taker to physically perform a set of skills. Tests vary in style, rigour and requirements. For example, in a closed book test, a test taker is often required to rely upon memory to respond to specific items whereas in an open book test, a test taker may use one or more supplementary tools such as a reference book or calculator when responding to an item.

A test may be administered formally or informally. An example of an informal test would be a reading test administered by a parent to a child. An example of a formal test would be a final examination administered by a teacher in a classroom or an I.Q. test administered by a psychologist in a clinic. Formal testing often results in a grade or a test score. A test score may be interpreted with regards to a norm or criterion, or occasionally both. The norm may be established independently, or by statistical analysis of a large number of participants.

1. Find the English equivalents in the text:

Виміряти (оцінювати) знання, обмежена територія, суворість, вимоги, покладатися на пам'ять, відповідати на специфічні пункти, додаткові засоби, довідник, стосовно норми чи критерію.

2. Translate the following terms and terminological expressions:

To measure skill, to perform a set of skills, test requirements, supplementary tools, reference book, a test score, to be interpreted with regards to a norm or criterion, statistical analysis.

3. Answer the following questions:

1. What is a test intended to measure?
2. How may a test be administered?
3. How do tests vary?
4. What is an example of an informal test?
5. What does formal testing result in?
6. How may a test score be interpreted?

4. Make a summary of the text.

5. Ask your partner about his experience of writing tests and tell him about yours.

6. Make an annotation of the article.

E-assessment

Laumer, S., Stetten, A. & Eckhardt, A. (2009) E-Assessment. Business & Information Systems Engineering

In its broadest sense, **e-assessment** is the use of information technology for any assessment-related activity. This definition embraces a wide range of student activity ranging from the use of a word processor to on-screen testing. Due to its

obvious similarity to e-learning, the term e-assessment is becoming widely used as a generic term to describe the use of computers within the assessment process. Computerized classification testing.

E-assessment can be used not only to assess cognitive and practical abilities but anxiety disorders, such as social anxiety disorder, i.e. SPAI-B. Cognitive abilities are assessed using *e-testing* software, while practical abilities are assessed using *e-portfolios* or *simulation* software.

An e-testing system designed to focus on lower level associations comprises two components: (1) an assessment engine; and (2) an item bank. An *assessment engine* comprises the hardware and software required to create and deliver a test. Most e-testing engines run on standard hardware so the key characteristic is the software's functionality. There is a wide range of software packages. The software does not include the questions themselves; these are provided by an *item bank*. Once created, the engine uses the item bank to generate a test. Traditional paper-and-pencil testing is similar, but the test is pulled from the bank at only one time, when it is sent to publishing.

The creation of the item bank is more costly and time consuming than the installation and configuration of the assessment engine. This is due to the fact that assessment engines can be bought "off the shelf," whereas an item bank must be developed for each specific application.

An e-assessment system designed to focus on more sophisticated forms of knowledge requires some sort of interactive activity and a system for inviting students to reason or solve problems around that activity. One influential program of research is known as Evidence Centered Design, or ECD. ECD involves the use of Bayesian Inference Nets to create a sophisticated model of student cognition, and a set of activities or problems that students work on that allow the system to estimate the individuals understanding of the particular domain.

Lesson 2

Education History



This trend began to influence the method of examination in British universities from the 1850s, where oral examination had been the norm since the Middle Ages. There was a rapid switchover to a written style of examination from the mid-century. In the US, the transition happened under the influence of the educational reformer Horace Mann. This shift decisively helped to move education into the modern era, by standardizing expanding curricula in the

sciences and humanities, creating a rationalized method for the evaluation of teachers and institutions and creating a basis for the streaming of students according to ability.

This examination system was later applied to primary and secondary education and it started to influence other parts of the world as it became a prominent standard (e.g. regulations to prevent the markers from knowing the identity of candidates), of delivering standardized tests.

Both World War I and World War II demonstrated the necessity of standardized testing and the benefits associated with these tests. Tests were used to determine the mental aptitude of recruits to the military. The US Army used the Stanford-Binet Intelligence Scale to test the IQ of the soldiers.

After the War, industry began using tests to evaluate applicants for various jobs based on performance. In 1952, the first Advanced Placement (AP) test was administered to begin closing the gap between high schools and colleges.

1. Find the English equivalents in the text:

Усний екзамен, швидке переключення, розширення навчальної програми, оцінювання вчителів, розподіл студентів на потоки, запобігати, особистість кандидата, переваги, визначити розумові (психічні) здібності, оцінити претендентів, бути основаним на результатах.

2. Translate the following terms and terminological expressions:

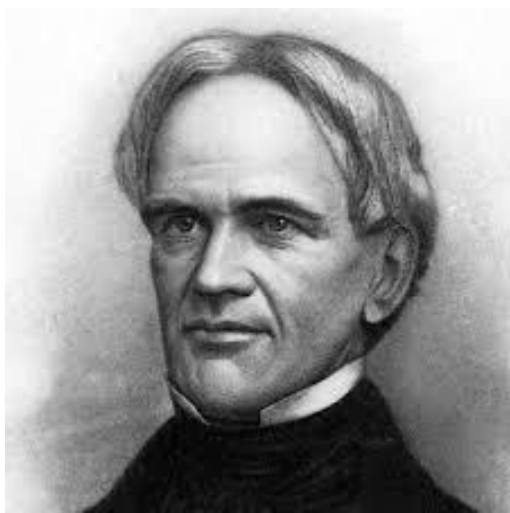
The method of examination, oral examination, a written style of examination, the educational reformer, the evaluation of teachers, primary and secondary education, delivering standardized tests.

3. Answer the following questions:

1. What form of examination was a norm since the Middle Ages?
2. Who had an influence upon the transition to a written style of examination in the US?
3. How did the shift to written examination help to move education into the modern era?
4. What did the US army use to test the IQ of the soldiers?

4. Make a summary of the text.

5. Discuss with your partner the advantages of the written form of an examination.



6. Make an annotation of the article.

Horace Mann

Educator, U.S. Representative (1796–1859)

By Stanley Millwood

Horace Mann was an American politician and education reformer, best known for

promoting universal public education and teacher training in "normal schools."

Education reformer Horace Mann was born on May 4, 1796 in Franklin, Massachusetts. Mann served in the Massachusetts House of Representatives and Senate before his appointment as the Massachusetts secretary of education. Mann went on to the U.S. House of Representatives, promoting an agenda of public education and "normal schools" to train teachers.

Horace Mann was born into poverty in Franklin, Massachusetts, in 1796. Chiefly self-taught, Mann was 20 years old when he was admitted to the sophomore class at Brown University.

There he took an interest in politics, education and social reform, and upon graduation he gave a speech on the advancement of the human race through which education, philanthropy, and republicanism could combine to benefit mankind.

After Brown, Mann practiced law before winning a seat in the Massachusetts House of Representatives, where he served from 1827 to 1833. From 1835 to 1837, he served in the Massachusetts Senate, spending time as the majority leader and aiming his sights at infrastructure improvements via the construction of railroads and canals, among other projects.

While Mann served in the Senate, the Massachusetts education system, with a history going back to 1647, was suffering, and the quality of education was deteriorating. Soon a vigorous reform movement arose, and in 1837 the state created the nation's first board of education, with Mann as its secretary.

With funds for the board's activities at a minimum, the position required more moral leadership than anything else, and Horace Mann proved himself up to the role. He started a biweekly journal, *Common School Journal*, in 1838 for teachers and lectured on education to all who would listen.

At this time he also developed his hugely influential, although at the time controversial, main principles regarding public education and its troubles: (1) Citizens cannot maintain both ignorance and freedom; (2) This education should be paid for, controlled, and maintained by the public; (3) This education should be provided in schools that embrace children from varying backgrounds; (4) This education must be nonsectarian; (5) This education must be taught using tenets of a free society; and (6) This education must be provided by well-trained, professional teachers.

Mann's words angered groups across the social and political spectrum -- from clergymen to educators to politicians -- but his ideas prevailed and still do today.

Mann served in the U.S. House of Representatives from 1848 to 1853 and then became the president of Antioch College. A commencement speech he gave two months before his death served as a clarion call, asking students to embrace his influential worldview: "I beseech you to treasure up in your hearts these my parting words: Be ashamed to die until you have won some victory for humanity."

Lesson 3

Modern-Day Use of Test



Some countries such as the United Kingdom and France require all their secondary school students to take a standardized test on individual subjects such as the General Certificate of Secondary Education as a requirement for graduation. These tests are used primarily to assess a student's proficiency in specific subjects such as mathematics, science, or literature.

In contrast, high school students in other countries such as the United States may not be required to take a standardized test to graduate. Moreover, students in these countries usually take standardized tests only to apply for a position in a university program, which are used primarily to measure a student's reasoning skill. High school students in the United States may also take Advanced Placement tests on specific subjects to fulfill university-level credit.

Grades or test scores from standardized test may also be used by universities to determine if a student applicant should be admitted into one of its academic or professional programs. For example, universities in the United Kingdom admit applicants into their undergraduate programs based primarily or solely on an applicant's grades on pre-university qualifications such.

1. Find the English equivalents in the text:

Вимагати, вимога, закінчення (навчального закладу), здавати (проходити) тест, оцінити знання, на відміну, використовуватися, визначати, абітурієнт, бути зарахованим.

2. Translate the following terms and terminological expressions:

Secondary school, standardized test, to assess a student's proficiency, specific subjects, to apply for a position, to measure a student's reasoning skill, to fulfill university-level credit, academic or professional programs, pre-university qualifications.

3. Answer the following questions:

1. What do some countries require all their secondary school students?
2. What are these tests used for?
3. Are high school students in the USA required to take tests?
4. What may grades or test scores from standardized test be used for?

4. Read the text. Put 4 questions on it. Discuss it with a partner.

Standardized tests are sometimes used by certain countries to manage the quality of their educational institutions. For example, the No Child Left Behind Act in the United States requires individual states to develop assessments for students in certain grades. In practice, these assessments typically appear in the form of standardized tests. Test scores of students in specific grades of an educational institution are then used to determine the status of that educational institution, i.e., whether it should be allowed to continue to operate in the same way or to receive funding.

Finally, standardized tests are sometimes used to compare proficiencies of students from different institutions or countries. For example, the Organisation for Economic Co-operation and Development (OECD) uses Programme for International Student Assessment (PISA) to evaluate certain skills and knowledge of students from different participating countries.

5. Make an annotation of the article.

Types of Tests: Written Tests

From Educational Journal

Written tests are tests that are administered on paper or on a computer. A test taker who takes a written test could respond to specific items by writing or typing within a given space of the test or on a separate form or document.

In some tests; where knowledge of many constants or technical terms is required to effectively answer questions, like Chemistry or Biology - the test developer may allow every test taker to bring with them a cheat sheet.

A test developer's choice of which style or format to use when developing a written test is usually arbitrary given that there is no single invariant standard for testing. Be that as it may, certain test styles and format have become more widely used than others. Below is a list of those formats of test items that are widely used by educators and test developers to construct paper or computer-based tests. As a result, these tests may consist of only one type of test item format (e.g., multiple choice test, essay test) or may have a combination of different test item formats (e.g., a test that has multiple choice and essay items).

Lesson 4

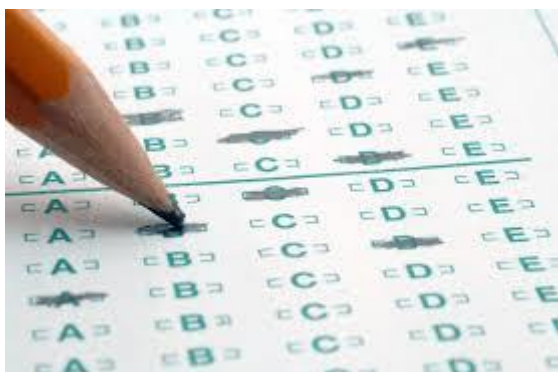
Multiple choice



In a test that has items formatted as multiple choice questions, a candidate would be given a number of set answers for each question, and the candidate must choose which answer or group of answers is correct. There are two families of multiple choice questions. The first

family is known as the True/False question and it requires a test taker to choose all answers that are appropriate. The second family is known as One-Best-Answer question and it requires a test taker to answer only one from a list of answers.

There are several reasons to using multiple choice questions in tests. In terms of administration, multiple choice questions usually requires less time for test takers to answer, are easy to score and grade, provide greater coverage of material, allows for a wide range of difficulty, and can easily diagnose a test taker's difficulty with certain concepts.



As an educational tool, multiple choice items test many levels of learning as well as a test taker's ability to integrate information, and it provides feedback to the test taker about why distractors were wrong and why correct answers were right.

Nevertheless, there are difficulties associated with the use of multiple choice questions. In administrative terms, multiple choice items that are effective usually take a great time to construct. As an educational tool, multiple choice items do not allow test takers to demonstrate knowledge beyond the choices provided and may even encourage guessing or approximation due to the presence of at least one correct answer.

1. Find the English equivalents in the text:

Питання множинного вибору; вибрати всі відповіді, які підходять; перелік відповідей, вимагати менше часу, забезпечити охоплення більшої частини матеріалу; забезпечити зворотній зв'язок, навчальний інструмент, заохочувати здогадку.

2. Translate the following terms and terminological expressions:

Multiple choice questions, True/False question, One-Best-Answer question, distractors, to demonstrate knowledge, correct answer.

3. Answer the following questions:

1. What would a candidate be given in a multiple choice questions test?
2. What are the types of MCQ?
3. What are the advantages of MCQ?
4. What are the disadvantages of MCQ?

4. Make a summary of the text.

5. Make an annotation of the article.

TEST TYPES

From Education Measurement Journal

Alternative response

True/False questions present candidates with a binary choice - a statement is either true or false. This method presents problems, as depending on the number of questions, a significant number of candidates could get 100% just by guesswork, and should on average get 50%.

Matching type

A matching item is an item that provides a defined term and requires a test taker to match identifying characteristics to the correct term.

Completion type

A fill-in-the-blank item provides a test taker with identifying characteristics and requires the test taker to recall the correct term. There are two types of fill-in-the-blank tests. The easier version provides a word bank of possible words that will fill in the blanks. For some exams all words in the word bank are exactly once. If a teacher wanted to create a test of medium difficulty, they would provide a test with a word bank, but some words may be used more than once and others not at all. The hardest variety of such a test is a fill-in-the-blank test in which no word bank is provided at all. This generally requires a higher level of understanding and memory than a multiple choice test. Because of this, fill-in-the-blank tests[with no word bank] are often feared by students.

Lesson 5

Essay

Items such as short answer or essay typically requires a test taker to write a response to fulfill the requirements of the item. In administrative terms, essay items take less time to construct. As an assessment tool, essay items can test complex learning objectives as well as processes used to answer the question.

The items can also provide a more realistic and generalizable task for test. Finally, these items make it difficult for test takers to guess the correct answers and require test takers to demonstrate their writing skills as well as correct spelling and grammar.

The difficulties with essay items is primarily administrative. For one, these items take more time for test takers to answer. When these questions are answered, the answers themselves are usually poorly written because test takers may not have time to organize and proofread their answers. In turn, it takes more time to score or grade these items. When these items are being scored or graded, the grading process itself becomes subjective as non-test related information may influence the process.

Thus, considerable effort is required to minimize the subjectivity of the grading process. Finally, as an assessment tool, essay questions may potentially be unreliable in assessing the entire content of a subject matter.

1. Find the English equivalents in the text:

Виконати вимоги, здогадатися правильну відповідь, авички письма, правильне написання, коригувати відповіді, процес градації, інструмент оцінювання, бути ненадійним.

2. Translate the following terms and terminological expressions:

Essay, to write a response, complex learning objectives, to score items, non-test related information, to minimize the subjectivity, assessing the content.

3. Answer the following questions:

1. What does an essay require?
2. Is it easy to construct an essay items?
3. What skill does an essay require to demonstrate?
4. What are the difficulties with essay items?

4. Make a summary of the text.

5. Make an annotation of the article.

Mathematical questions

Most mathematics questions, or calculation questions from subjects such as chemistry, physics or economics employ a style which does not fall in to any of the above categories, although some papers, notably the Maths Challenge papers in the United Kingdom employ multiple choice. Instead, most mathematics questions state a mathematical problem or exercise that requires a student to write a freehand response. Marks are given more for the steps taken than for the correct answer. If the question has multiple parts, later parts may use answers from previous sections, and marks may be granted if an earlier incorrect answer was used but the correct method was followed, and an answer which is correct (given the incorrect input) is returned.

Higher level mathematical papers may include variations on true/false, where the candidate is given a statement and asked to verify its validity by direct proof or stating a counter example.

6. Make the substantiation of your research.

VIII. Граматичні завдання

Passive Voice

1. Choose the right form of the verb.

1. This house (to build) by my great-grandfather in 1790.
2. As a result of an earthquake the house (to burn down) there.
3. The door of this house (to close) for you tomorrow.
4. He (to recognize) by the policeman two days ago.
5. The Paris newspapers declared that the child (to call) Juliet.
6. That building (to paint) yellow some years ago.

2. Use an appropriate tense of the verb in brackets.

1. He ____ just ____ (offer) a well-paid job with Radio Four.
2. The ceremony ____ (report) in the news last night.
3. I think cinema ____ (replace) gradually by TV and computers in the next century.
4. This program became very popular after the main presenter ____ (vote) the most interesting TV personality of the year.
5. Her latest series of articles ____ (publish) in a national newspaper every month.
6. Some films should ____ (not watch) by children and they ____ (show) on TV before 22.00.

3. Transform the Active Voice into Passive:

1. They sent for a doctor.
2. They looked for the book everywhere.
3. They listened to the lecture with great interest.
4. They always look at this picture.
5. They will look through these letters tomorrow.
6. They often laughed at him.

4. Change the following into the Passive Voice. Leave out the subject of the action.

1. The girls water the flowers every day.
2. They publish this magazine in Paris.
3. We do not discuss such questions at our meeting.
4. Somebody built this castle in the 16th century.

5. They did not show this film last week.
6. They will not finish this work tomorrow.
7. We shall invite him to take part in the concert.
8. The workers repaired this road last year.
9. They write compositions regularly.
10. The travellers made camp not far from the village.

5. Change the following into the Passive Voice, without leaving out the subject of the action.

1. My sister teaches me English.
2. Peter drives the car.
3. The fascists killed her father.
4. His assistant will meet the delegation.
5. Alan opened the door.
6. He put the letter in the envelope.
7. The hunter killed the bear.
8. The guide showed us the monuments of Lviv.
9. The waitress offered me a cup of tea.
10. He showed me the way to the railway station.

6. Fill in the blanks with the necessary verb form:

1. A huge housing program ... (to carry out) now.
2. Something important ... (to announce) over the radio now.
3. Don't enter the room. It is ... (to clean) now.
4. What question ... (to discuss) when you came to the meeting.
5. Your papers ... (to type) from 5 till 6 tomorrow.
6. He ... (to wait for) downstairs.

7. Translate into English:

1) Переклад вже закінчено. 2) Лист щойно відправлено. 3) За останні роки в нашому місті побудовано багато нових будинків. 4) Стаття ще не опублікована. 5) Це запитання вже обговорено? 6) Мене тільки що запитали про це. 7) Делегацію вже зустріли? 8) Вчора до цього часу робота вже була завершена. 9) Ми зрозуміли, що наш лист ще не отримали. 10) До того часу, коли вони приїхали, питання було вже вирішено.

8. Change these sentences into the Passive. Make the underlined words subjects of the passive sentences.

1. The police fined the driver for speeding.
2. People have sent her lots of birthday cards this year.
3. The lights went out when they were serving the meal.
4. Journalists asked the prime minister a lot of difficult questions.
5. Nobody has told me what to do.
6. The police were following him until he got to the office.

9. Choose the correct verb form.

1. The news ____ by James Cook tomorrow (will read, was read, will be read).
2. Three men ____ now about last month's bank robbery in Weymouth (are questioned, are being questioned, were being questioned).
3. According to a report, hundreds of people ____ in the streets every day (attack, are attacked, were attacked).
4. The law about TV stations ____ in parliament today (was passed, has passed, has been passed).
5. The scandal ____ by two reporters from *The Washington Post* (was uncovered, covered, was being uncovered).

10. Translate the sentences, using Passive Voice.

a)

1. Цю статтю написав англійський журналіст.
2. Переклад буде закінчено вчасно.
3. Наш будинок зараз ремонтують.
4. Обід варили, коли я прийшов додому.
5. Цей театр було побудовано до того, як ми приїхали сюди.
6. Про вас щойно говорили.
7. Твори англійських письменників публікуються у всьому світі.

b)

1. Грабіжника було заарештовано на місці злочину.
2. Пацієнта було прооперовано одразу після нещасного випадку.
3. Машину щойно вкрали.
4. Скульптуру перефарбовували весь вечір.
5. Це рішення вже прийнято міністром Берtrandом Осборном.
6. Нове попередження було надано вченими вулканічної обсерваторії до 5 години вчора.

11. Use the verbs in brackets in the Active or Passive Voice:

1. Nobody (to see) him yesterday.
2. The telegram (to receive) tomorrow in the evening.
3. He (to give) me this book next week or in a week.
4. The answer to this question can (to find) in the encyclopaedia.
5. We (to show) the historical monuments of the capital to the delegation.
6. You can (to find) interesting information about the life in the USA in this book.
7. Budapest (to divide) by the Danube into two parts: Buda and Pest.
8. Yuri Dolgoruki (to found) Moscow in 1147.
9. Moscow University (to found) by Lomonosov.
10. We (to call) Zhukovski the father of Russian aviation.

12. Translate into English using Passive Infinitive after modal verbs:

1. Руки треба мити перед кожною їжею.
2. Кімнати треба регулярно провітрювати.
3. Кішку слід годувати рибою.
4. Собаку можна годувати м'ясом та овочами.
5. Дітям треба регулярно давати фрукти та овочі.
6. Книги треба класти в шафу або на книжкову полицю.
7. Цю картину можна повісити над каміном.
8. Як можна перекласти це слово?
9. Куди можна поставити валізи?
10. На що потрібно звернути увагу?
11. Треба записати твій номер телефону про всяк випадок.
12. Потрібно виміряти ваш кров'яний тиск та температуру.
13. Його треба запросити на мій день народження.
14. Їй можна запропонувати нову посаду або нову роботу.

The Infinitive

13. Transform the sentences using the Infinitive instead of Subordinate Clauses:

1. He was sorry *when he heard of your disappointment*. 2. Do you understand *what you have to do*? 3. He hopes *that he will get the information tomorrow*. 4. We should be sorry *if we heard bad reports of him*. 5. The candidate did not expect *that he would pass the interview*. 6. Do not promise *that you will do it*, if you are not sure of success. 7. He was annoyed *when he heard* that the Conservative party got in again. 8. She was sorry *that she had missed the beginning of the lecture*. We must wait *till we hear* the examination results before we make any plans. 10. She is happy *that she has found such a simple solution to this difficult problem*.

14. Find the Objective Infinitive Construction and translate into Ukrainian:

1. I consider them to be good specialists. 2. He heard them discuss their plan. 3. I heard him mention my name. 4. We expect writers to deal with the issues of the modern world. 5. They believed him to be honoured by the invitation to the international congress. 6. We assume these truths to be self-evident. 7. They find the experience of this conference to have been a remarkable one.

15. Translate the sentences paying attention to the Objective Infinitive Construction:

1. We know industrial electronic equipment to play a very significant role in the modern world. 2. We often watched the operator adjust the apparatus. 3. They wanted this device to be installed immediately. 4. Faraday expected electrochemistry to be widely used for peaceful construction. 5. We know electrochemistry to owe its birth to the discoveries of Volta.

16. Transform the sentences using the Objective Infinitive Construction:

1. I've never heard how he spoke about his life in India. 2. The two sides expect that negotiations will be long and difficult. 3. We expect that a scientist or a scholar will keep an open mind. 4. One can hardly expect that a true scientist will keep within the limits of one's narrow field. 5. They thought that he was an eminent scholar. 6. We expected that the partners would agree on a number of issues. 7. We assume that these errors are of no importance. 8. We suppose that his discovery is accidental. 9. We consider that he is a real genius. 10. They estimate that the number of casualties will be much higher.

17. Translate the sentences paying attention to the Objective Infinitive Construction:

1. Вона часто спостерігала, як він годинами працював над цим експериментом. 2. Члени наукового товариства вимагають, щоб цей пристрій було спочатку протестовано. 3. Дослідники вважатимуть цей регіон єдиним джерелом мінеральних ресурсів та енергії. 4. Він знав, що ці дані використовуються в їх дослідженнях. 5. Автор змусив їх переписати два розділи. 6. Ми б хотіли, щоб ви мали свою власну думку щодо цього експерименту. 7. Вчений вважає, що це явище досить рідкісне. 8. Вони очікували, що ця спроба виявиться вдалою.

18. Translate the sentences paying attention to the Subjective Infinitive Construction:

1. Some theories, which seemed to be perfectly reasonable even a short time ago, have proved to be absolutely wrong. 2. It was hoped that this experimental method would help to solve the problem, but it proved to be quite useless. 3. The discussion proved to be very useful in helping to approach the problem in a new way. 4. The new evidence proved to confirm the theory. 5. Facts that seem insignificant at first often prove later to be of vital importance. 6. He seems to know little about research work. 7. All our efforts proved to be useless. 8. The computer is expected to save the scientist a lot of time. 9. This discovery is considered to be the result of a long and thorough investigation. 10. These phenomena are believed to be interdependent.

19. Translate the sentences keeping in mind:

1) The verbs using with the Subjective Infinitive Construction in Passive form: a) *to believe, to consider, to hold, to think, to suppose* (вважати, думати); b) *to expect* (очікувати), *to estimate* (оцінювати), *to say* (говорити), *to report* (повідомляти).

2) The verbs using with the Subjective Infinitive Construction in Active form: *to seem, to appear* (здаватися), *to prove, to turn out* (виявлятися), *to happen* (траплятися, виявлятися).

3) The expressions using with the Subjective Infinitive Construction: *to be likely* (ймовірно), *to be sure, to be certain* (напевно), *to be unlikely* (навряд).

1. Його знали як дуже чутливого до будь-якої критики. 2. Вважають, що атомна енергія стане головним джерелом постачання енергії. 3. Кажуть, що наша лабораторія отримала нові прилади. 4. Відомо, що напівпровідники знайдуть різноманітне застосування в майбутньому. 5. Вважається, що водень складає половину поверхні землі, води та повітря. 6. Очікується, що він поновить випробування на наступному тижні. 7. Ймовірно, ці вчені опублікують результати своїх досліджень. 8. Навряд чи він візьме участь у дискусії. 9. Напевно, він представить свою доповідь наприкінці конгресу. 10. Виявилось, що він усвідомлює всі наслідки експерименту.

20. Transform the following sentences, using the Subjective Infinitive Construction and the verb in brackets according to the model:

History repeats itself. – History is known to repeat itself.

1. Leonardo da Vinci discovered and laid down immortal principles in the theory of art (to know). 2. Leonardo da Vinci designed the first parachute (to suppose). 3. Leonardo denied himself meat out of an aversion to the killing of animals (to say). 4. Applied science will produce a vast increase in entirely new synthetic products of all kinds (to expect). 5. Rapid expansion of industrialization leads to an exhaustion of natural resources (to believe). 6. Close cooperation between scientists and scientific institutions all over the world is one of the most striking characteristics of modern science (to consider). 7. Charles Spencer Chaplin made more people laugh than any other human being in the history of the world (to know).

21. Translate the following sentences into Ukrainian:

1. Leonardo da Vinci is considered to be a pioneer in physiology and botany. 2. The Earth is said to have been part of the Sun. 3. The delegation is reported to have arrived in the capital already. 4. Moral perfection is considered to be one of the ideals of mankind. 5. Leonardo da Vinci is known to have studied optics. 6. His painting and sculpture are supposed to have opened up few fields of enquiry. 7. He is known to have studied the structure of the bones and muscles of the human body.

22. Translate the following sentences into English:

1. Відомо, що наука значно змінила умови життя сучасної людини. 2. Вважається, що Леонардо да Вінчі сконструював перший ліфт. 3. Кажуть, що цей політичний діяч досяг великих успіхів. 4. Очікується, що протиріччя між цими країнами будуть залагоджені. 5. Відомо, що Леонардо да Вінчі створив проект реконструкції Мілана. 6. Кажуть, що він достатньо розумний, щоб правильно оцінити ситуацію. 7. Очікується, що вони поновлять випробування наступного тижня. 8. Повідомляють, що президент вже прибув до столиці.

23. Translate the sentences paying attention to the Object and Subjective Infinitive Constructions:

1. We consider radioactive atoms to be very valuable in all sorts of ways. 2. An atom is known has been proved to hold a tremendous force, hidden in its tiny body. 3. Everything around us is known to be composed of atoms. 4. The common articles in the laboratory are known to be made of plastics. 5. In general, plastics are known to be classified into groups according to their behaviour when they are heated. 6. The plastics have proved to be satisfactory alternatives to many other materials. 7. The 19th century is often considered to be the century of steam and electricity. 8. We know the molecules of substances to be in continual motion.

24. Translate the sentences paying attention to the Object and Subjective Infinitive Construction:

1. Відомо, що атомній енергії належить майбутнє. 2. Кажуть, що наша лабораторія отримала нові прилади. 3. Відомо, що розчин – це однорідна суміш двох або декількох речовин. 4. Ми виявили, що ці експерименти відповідали раніше прийнятим нормам. 5. Учні очікували, що магніт притягне цей предмет. 6. Відомо, що біля полюсів магніту магнітне поле сильніше.

25. Translate the sentences with Prepositional Infinitive Construction into Ukrainian:

1. It is desirable for you to know it. 1. He waited for the papers to be published. 3. There is only one thing for you to do. 4. For the experiment to be successful he had to do much work. 5. Have you got anything for me to read? 6. For the meeting to be a success much preliminary work must be done. 7. No efforts are large enough for the research to be completed. 8. We are waiting for the jury to announce their verdict. 9. It will take a number of years for the two sides to come to an agreement. 10. It will be expedient for them to postpone the visit. 11. It will be convenient for all of us to have the examination on Tuesday.

26. Complete the following sentences:

1. It is necessary for her ... 2. It is advisable for them ... 3. They waited for us ... 4. It was important for them ... 5. There was no reason for him ... 6. It will be dangerous for him ... 7. It was high time for them ... 8. It is better for her ... 9. The best thing for me was ... 10. She will wait for me ...

27. Make up sentences using “For ... to + Infinitive” construction:

Necessary	journalists	take a different view
Important	economists	take some interest in politics
Essential	politicians	confront reality / face facts
Impossible	philosophers	deny the progress of science

28. Translate the following sentences into English:

1. Не існує серйозних перешкод тому, щоб ці країни жили у мирі. 2. Він дав нам декілька статей, щоб ми використали його дані у нашому дослідженні. 3. Лектор говорив достатньо голосно, щоб всі могли чути його. 4. Вкрай важливо, щоб ви прочитали його біографію. 5. Всі ми повинні вчитися на власному досвіді. 6. Необхідно, щоб ця проблема була вирішена негайно.

IX. Граматичний довідник

PASSIVE VOICE

1. **The Passive is formed** by using the appropriate tense of the verb *to be* + *Past Participle*.

Tense	Active Voice	Passive Voice
Present Simple	They repair cars.	Cars are repaired .
Past Simple	They repaired the car.	The car was repaired .
Future Simple	They will repair the car.	The car will be repaired .
Present Continuous	They are repairing the car.	The car is being repaired .
Past Continuous	They were repairing the car.	The car was being repaired .
Present Perfect	They have repaired the car.	The car has been repaired .
Past Perfect	They had repaired the car.	The car had been repaired .
Future Perfect	They will have repaired the car.	The car will have been repaired .
Modals + be+ Past Part.	They will have repaired the car.	This car must be repaired .
	You must repair this car.	

2. **The Passive is used:**

- ✚ When the agent (the person who does the action) is unknown, unimportant or obvious from the context.
*My car **was stolen** yesterday. (unknown agent)*
*The road repairs **were completed** last week. (unimportant agent)*
*The kidnappers **have been arrested**. (by the police – obvious agent)*
- ✚ To make statement more polite or formal.
*My new suit **has been burnt**. (It's more polite than saying "You've burnt my new suit".)*
- ✚ When the action is more important than the agent – as in news reports, formal notices, instructions, processes, headlines, advertisements etc.
*Taking pictures **is not allowed**. (written notice)*
*The local bank **was robbed** this morning. (news report)*
*Bread **is baked** in an oven for about 45 minutes. (process)*
- ✚ To put emphasis on the agent.

*The Tower of London was **built** by William the Conqueror.*

INFINITIVE

Infinitive forms	Active Voice	Passive Voice
Indefinite	to offer	to be offered
Continuous	to be offering	-----
Perfect	to have offered	to have been offered
Perfect Continuous	to have been offering	-----

1. The **Indefinite Infinitive** refers to the present or future: *I'd like **to go** for a walk.*
2. The **Continuous Infinitive** is used with *appear, claim, seem, pretend, must, can't, happen, should, would etc* to describe an action happening now: *He **must be working** in the garden now.*
3. The **Perfect Infinitive** is used with *appear, happen, pretend, seem etc* to show that the action of the infinitive happened before the action of the verb: *He **claims to have met** the Queen.*
4. The **Perfect Continuous Infinitive** with *appear, seem, pretend etc* to put emphasis on the duration of the action of the infinitive, which happened before the action of the verb: *She **seems to have been working** all morning.*

The *to*-infinitive is used:

1. to express purpose: *She went out **to buy** some milk.*
2. after certain verbs (*advise, agree, appear, decide, expect, hope, promise, refuse etc*):
*He **promised to be** back at 10 o'clock.*
3. after certain adjectives (*angry, happy, glad etc*): *She was glad **to see** him.*
4. after question words (*where, how, what, who, which, but not after why*): *Has she told you where **to meet** them? But: I don't know why he left so early?*
5. after *would like/would love/would prefer* to express specific preference): *I'd love **to go** for a walk.*
6. after nouns: *It's a pleasure **to work** with you.*
7. after *too/enough* constructions: *He's too short **to reach** the top shelf. He isn't tall enough **to reach** the top shelf.*
8. with *it + be + adj (+ of + object)*: *It was nice of him **to remember** my birthday.*
9. with *only* to express unsatisfactory result: *He called me **only to say** that he would be late.*

The infinitive without *to* is used:

1. after modal verbs (*must, can, may, will etc*): *You **must be** back at 12 o'clock.*
2. after *had better/would rather*: *I'd rather **had stayed** in last night.*
3. after *make/let/see/hear/feel + object*: *Mum let me **watch** TV. I made him **apologise**.*

But: in the passive form: *be made/be heard/be seen* + *to*-infinitive: *He was made to apologise.*

Note: *help* is followed by a *to*-infinitive or an infinitive without *to*: *She helped me (to) wash the dress.*

The Objective Infinitive Complex

The Objective Infinitive Complex consists of a noun in the Common Case or a personal pronoun in the Objective Case and the infinitive. The nominal part of the complex denotes the subject or the object of the action expressed by the infinitive.

In the sentence this complex has the function of a complex object.

The Objective Infinitive Complex is used:

- a) after the verbs denoting perceptions of senses (*to see, to hear, to feel, to watch, to observe, to notice*); infinitive without *to* is used after these verbs, e.g.: *They all watched him walk up the hill.*
- b) after the verbs denoting wish, intention, emotions (*to want, to wish, to desire, to like, to dislike, to hate, to intend, should/would like*), e.g.: *He intended me to go with him to the theatre.*
- c) after the verbs denoting mental activity (*to consider, to believe, to think, to find, to know, to expect, to suppose*), e.g.: *We consider him to be an interesting person.*
- d) after the verbs denoting request, permission, advice, compulsion (*to order, to ask, to request, to allow, to permit, to advise, to recommend, to cause, to force, to make, to let*); infinitive without *to* is used after *to make* and *to let*, e.g.: *We made George work.*

The Subjective Infinitive Complex

The Subjective Infinitive Complex consists of a noun in the Common Case or a personal pronoun in the Nominative Case and the infinitive.

The nominal part of the complex may denote both the subject and the object of the action expressed by the infinitive.

The Subjective Infinitive Complex is used:

- a) with the verbs *to say* and *to report* (in the Passive Voice), e.g.: *The delegation is reported to have arrived in Geneva.*
- b) with the verbs (in the Passive Voice) denoting mental activity (*to consider, to believe, to think, to know, to expect, to suppose*), e.g.: *The meeting is expected to begin this morning.*
- c) with the verbs (in the Passive Voice) denoting sense perceptions (*to see, to hear, to feel, to watch, to observe, to notice*), e.g.: *He was seen to enter the house.*
- d) with the verbs (in the Passive Voice) denoting request, permission, advice, compulsion (*to order, to ask, to request, to allow, to permit, to advise, to recommend, to cause, to force, to make, to let*); e.g.: *They were ordered to leave the hall.*

- e) with the verbs *to seem, to appear, to happen, to chance, to turn out, to prove*, e.g.: *She seemed not to listen to him.*
- f) with the expressions *to be sure, to be certain, to be likely, to be unlikely*, e.g.: *He is certain to be sleeping.*

The Prepositional Infinitive Complex

The infinitive complex preceded by the preposition *for* is called the Prepositional Infinitive Complex. It may be used in the functions of a subject, predicative, object, attribute and adverbial modifier of result and purpose.

It is time for us to go. He waited for her to speak. There's nobody here for him to play with. It was too dark for her to see him.

Х. Література

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