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24.05.2021

EDUCATIONAL AND METHODICAL COMPLEX
IN THE ACADEMIC DISCIPLINE

DESIGN OF THEORETICAL AND EMPIRICAL PSYCHOLOGICAL RESEARCH

for all specialties

Compiled by: V.V. Bogatyreva, M.Yu. Bobrick, S.L. Bogomaz, V.A. Kosmach, T.E. Kosarevskaya, S.V. Lautkina, M.E. Shmurakova, V.G. Shpak, V.A. Karaterzi, M.M. Morozhanova, N.S. Semenova, J.L. Potasheva, E.I. Soveiko, J.S. Salakhova

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Design of theoretical and empirical psychological research for
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The educational and methodical complex is prepared in accordance with the educational standard for students of the 2nd stage of obtaining higher education for all specialties. The manual contains a brief synopsis of lectures, tasks for conducting seminars, practical classes, a list of basic and additional literature.

It is intended for students of the 2nd stage of obtaining higher education of students for all specialties.

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CONTENT

INTRODUCTION

1. The purpose of teaching the discipline is to form students ' scientific views, knowledge in the field of methodology and methods of theoretical and empirical psychological research.

Objectives of the study of the discipline:

– to know and understand the conceptual and categorical apparatus of scientific research in psychology;

– to learn the essence and stages of research in psychology;

– master the basic methods of psychological research.

The disciplines that are necessary for mastering the design of theoretical and practical psychological research include: methodology, theory and methods of psychological research, psychodiagnostics, statistical methods in psychology, professional ethics.

As a result of studying the discipline, the student should **know**:

– current problems of psychology;

– methodological principles of psychological research;

– stages of organizing research work;

– the logical structure of the study;

– diagnostic tools of psychology.

As a result of studying the discipline, the student must **be able to**:

– analyze, systematize and summarize information on the problems of psychology;

– process research data;

– to test and formalize the results of the study.

As a result of studying the discipline, the student must **own:**

– tools, methods and techniques for conducting psychological research.

The study of the academic discipline will contribute to the formation and development of competence:

– LC-3. Have the skills to develop the design of scientific psychological research.

90 hours are allocated for the study of the discipline, including classroom hours:

– full-time training 48 hours (20 lectures, 28 practical);

– part-time training – 14 hours (6 – lectures, 8 – practical).

The form of higher education (second stage) – full-time, part-time.

Forms of current certification in the academic discipline:

– full-time education – 1 semester-exam.

– part-time education – 2 semester-exam.

MODULE 1
THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE DESIGN OF PSYCHOLOGICAL RESEARCH

THEORETICAL SECTION

Lecture 1
Introduction to the subject. Specifics of psychological scientific knowledge

Lecture plan

1. The history of the professional application of psychological knowledge.
2. The specifics of psychological knowledge. Psychology and human life experience.
3. Psychology in the system of technical, natural, social and humanities sciences.

Basic concepts: science, psychology, knowledge, sscientific research.

1. Science is a general way of understanding the natural world. Its three fundamental features are systematic empiricism, empirical questions, and public knowledge.

Psychology is a science because it takes the scientific approach to understanding human behavior. Psychology is a relatively young science with its experimental roots in the 19th century, compared, for example, to human physiology, which dates much earlier.

Psychological knowledge – a person's knowledge of himself as a carrier of special psychological properties and characteristics, a subject of mental activity. Knowledge about the psyche, following the developing life of a person and reflecting all the new and more complex aspects of his interaction with the world, is included in this interaction itself as an important factor in its regulation, providing not only adaptive, adaptive, but also transforming effective, active forms of behavior.

In the process of development of psychological knowledge can distinguish *the levels:*

1) *everyday psychology*. This kind of psychological knowledge has been accumulated and used by people in everyday life in the course of historical development. Knowledge about people is usually specific and formed for each person individually. Their validity verified through personal experience, and they are used when interacting with other people. They begin with an attempt to explain some other human action by the peculiarities of his inner world. To do this, we compare his actions and draw conclusions about the typical properties of his soul. This knowledge allows us

to characterize it. Thus, everyday psychology moves from observing and trying to explain a specific action to a general understanding of a person.

2) *Art*. The greatest source of psychological knowledge is works of art. Writers and poets try to reflect typical features of people's inner world (psychology) in their stories, images, and actions. At the same time, creative individuals use their observations, reflections, and the wisdom of everyday psychology. And here it is important not only that "what" is depicted, but also that "how" it is done. In music, the inner world of a person is reflected in sounds. Images of various kinds and types created in works of art allow a person to better understand their inner world and the souls of other people.

3) *Scientific psychology*. For many centuries, scientific and psychological knowledge has developed within the framework of philosophy, medicine, pedagogy and other Sciences. In the second half of the XIX century, psychology became an independent science and during the XX century accumulated a huge amount of knowledge. Scientific psychology aimed at finding patterns of mental phenomena, uses scientific methods that characterized by objectivity and provide greater reliability of the knowledge obtained. Features of scientific and psychological knowledge- their generality, systematic, evidence, reliance on scientific facts and concepts. At the same time, this knowledge is presented in a specific language of scientific psychology, understandable only to professional psychologists. There is also a special area of scientific psychology – applied psychology, which studies the ways of applying (applying) scientific and psychological knowledge to solve practical problems.

4) *Practical psychology*. Its tasks include finding ways and developing methods of psychological assistance to people. Practical psychology does not study the General laws of mental phenomena, but rather the individual, specific circumstances of a person's life and ways of interacting with him. The criterion for the reliability of knowledge considered the practical experience and efficiency of the specialist. The practical psychologist in his work always relies on a concept and applies it to the specific situation.

5) *Parapsychology*. The fifth source of psychological knowledge called parapsychology, which belongs to the type of esoteric knowledge: extrasensory cognition, clairvoyance, telepathy, palmistry, yoga methods, and astrology. The totality of esoteric knowledge concerning the world of psychic phenomena often called parapsychology. The mystery of the methods of obtaining them, the lack of explanations based on traditional scientific principles are characteristic of such knowledge. Ways to prove the truth of such knowledge are specific and not systematic enough.

2. The problem of the subject of psychology. The peculiarity of psychological knowledge is its poly-subject (multiplicity). The formation of psychological knowledge constantly accompanied by a confrontation of views on the relationship of matter and consciousness, soul and body. In accordance with this criterion, the dynamics of the formation of psychological knowledge can divided into 2 periods:

1. Psychology in the framework of related scientific disciplines (IV century BC – mid – XIX century);

2. Formation of psychology as an independent discipline (mid – XIX – XXI centuries).

The Goals of Research in Psychology:

Scientific research in psychology has four related goals. Researchers hope to develop complete descriptions of behaviors, to make predictions about future behavior, and to provide reasonable explanations of behavior. Furthermore, they assume the knowledge derived from their research will be applied to benefit people, either directly or eventually.

Basic versus Applied Research. Scientific research is often classified as being either basic or applied. **Basic research** in psychology is conducted primarily for the sake of achieving a more detailed and accurate understanding of human behavior, without necessarily trying to address any particular practical problem. **Applied research** is conducted primarily to address some practical problem. Research on the effects of cell phone use on driving, for example, was prompted by safety concerns and has led to the enactment of laws to limit this practice. Although the distinction between basic and applied research is convenient, it is not always clear-cut. For example, basic research on sex differences in talkativeness could eventually have an effect on how marriage therapy is practiced, and applied research on the effect of cell phone use on driving could produce new insights into basic processes of perception, attention, and action.

The problem of the scientific method. The scientific method is a process of systematically collecting and evaluating evidence to test ideas and answer questions. While scientists may use intuition, authority, rationalism, and empiricism to generate new ideas they don't stop there. Scientists go a step further by using systematic empiricism to make careful observations under various controlled conditions in order to test their ideas and they use rationalism to arrive at valid conclusions. One major problem is that it is not always feasible to use the scientific method; this method can require considerable time and resources. Another problem with the scientific method is that it cannot be used to answer all questions. For example, B.G. Ananyev identifies the following groups of methods:

Group I – organizational methods:

– comparative method (comparison of different groups by age, activity, etc.);

– longitudinal method (multiple surveys of the same individuals over a long period of time);

– a complex method (representatives of different Sciences participate in the study; however, as a rule, one object is studied by different means. Research of this kind allows us to establish connections and relationships between different types of phenomena, for example, between the physiological, psychological and social development of the individual).

Group II – empirical methods:

– observation and self-observation;

– experimental methods,

– psychodiagnostic methods (tests, questionnaires, sociometry, interviews, conversation),

– analysis of products of activity,

– biographical methods.

Group III – data processing methods that include:

– quantitative (statistical);

– qualitative (differentiation of material by groups, analysis) methods.

Group IV – interpretation methods that include:

– genetic (analysis of the material in terms of development with the allocation of individual phases, stages, critical moments, etc.);

– structural (establishes structural links between all personality characteristics) methods.

3. Academician B.M. Kedrov placed psychology at the center of the "*triangle of Sciences*" (Figure 1).

The apex of this triangle constitute the natural Sciences, the lower left corner – social science, bottom right – philosophy (logic and epistemology). Between the natural Sciences (natural and philosophical Sciences) is mathematics, between the natural and social Sciences are technical Sciences. Psychology is Central to all three groups of Sciences. It acts both as a product of all other Sciences, and as a possible source of explanation of their formation and development.

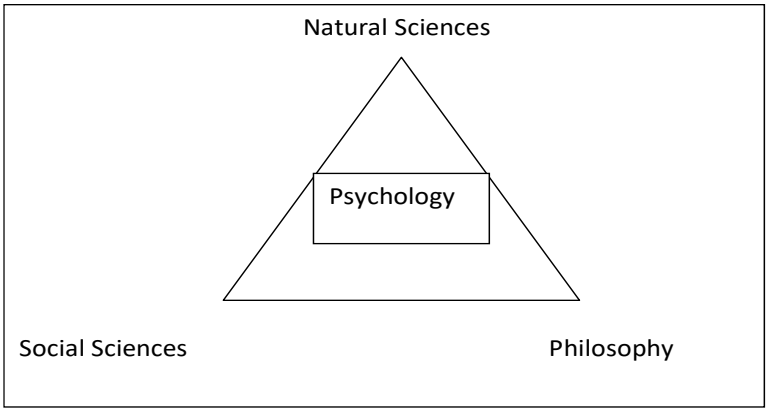

Fig. 1 – Triangle of sciences

Thus, psychology is a science in which social-humanitarian and natural-scientific knowledge are correlated, which determines its role as a Foundation in the system of Sciences. Psychology integrates data from these branches of scientific knowledge and, in turn, influences them, becoming a General model of human knowledge. The historical mission of psychology in modern times is to be an integrator of all spheres of human knowledge and the main means of building its General theory. Psychology fulfills the mission of combining the natural and social Sciences in the study of man into a single concept.

Lecture 2
Types of scientific psychological research

Lecture plan

1. Stages and structure of scientific research.
2. Methodology of research.
3. Paradigms, theories, and researcher's approach.
4. Inductive and deductive approaches.
5. Empirical research.

Basic concepts: methodology, method, approach, theory, paradigm, empirical research.

1. Research is a complex, purposeful, analytical-synthetic, intellectual cognitive activity that originates from practice and returns to it, the characteristic feature of which is the systematic systematic study of objects of real reality by precisely established methods and means.

Research in psychology is the systematic, controlled, empirical study of hypotheses about the supposed relationships between psychological-behavioral and organizational phenomena.

Research objectives in psychology:

1. Definition, identification of new relationships, data, which, although they cannot be considered as final results, but allow us to answer a number of unresolved questions. In the field of organizational psychology, as in other related disciplines, it is impossible to assume that the conclusions drawn from the study will be final.

2. Verification and confirmation of certain facts or theoretical propositions. Data verification is a prerequisite for the reliability and scientific validity of research results.

2. Methodology, approaches and principles of research. There are three paradigmatic determinants:

– *ontology* – the reality studied;

– *the epistemology* – the knowledge of the reality,

– and lastly, the *methodology* or strategy used to seek the truth.

Research involves understanding the relationship between theory, philosophy (ontology and epistemology), methodology and methods.

The success of the research, the objectivity of obtaining knowledge is primarily due to the choice of the research methodology. **Methodology** is a system of principles and methods of organizing and constructing theoretical and practical activities.

There are four levels of methodology.

The highest level is the philosophical methodology, which consists of the general principles of knowledge and the categorical structure of science as a whole. Methodological functions are performed by the entire system of philosophical knowledge.

General scientific methodology is the second level, representing general scientific concepts that affect many scientific disciplines, for example, system, synergetic and other approaches.

The third level is a *specific scientific methodology*, i.e. a set of approaches, principles, and procedures applied in a particular scientific discipline. The methodology of a special discipline includes both problems specific to scientific knowledge in this field, and issues raised at higher levels of methodology, for example, a systematic approach; modeling in psychological and pedagogical research.

The fourth level of the methodology is represented by the *research methodology and technique.* This is a set of procedures that ensure the receipt of reliable empirical material and its processing, after which it can be included in the array of knowledge, which is highly specialized methodological knowledge.

All levels are interconnected and form a complex system, while the philosophical level acts as the basis, the basis of all methodological knowledge.

3. Paradigms, theories, and researcher's approach. *Positivism* is a widespread trend in philosophy, founded in the 1930s by the French philosopher Auguste Comte (1798–1857).

From a positivist perspective, credible research is determined by:

– objectivity, observable phenomenon that excludes subjectivity;

– reliability, that data is repeatedly the same;

– validity, that data is equivalent when repeated;

– generalisability, that findings are applicable to the greater population, and lastly,

– reproducibility, that results will be the same in similar studies with similar contexts.

Social constructionism. While positivists seek «the truth» the social constructionist framework posits that «truth» is a varying, socially constructed, and ever-changing notion. This is because we, according to this paradigm, create reality ourselves (as opposed to it simply existing and us working to discover it) through our interactions and our interpretations of those interactions. Key to the social constructionist perspective is the idea that social context and interaction frame our realities. Researchers operating within this framework take keen interest in how people come to socially agree, or disagree, about what is real and true.

Post-positivism is also known as methodological pluralism. According to Krauss (2005), the paradigm the researcher selects determines the research methodology.

The post-positivist paradigm evolved from the positivist paradigm. It is concerned with the subjectivity of reality and moves away from the purely objective stance adopted by the logical positivists.

The main features of postpositivism, as opposed to positivism

– The neutrality concept of the post-positivists recognises subjectivities and attempts to avoid biases.

– Subjectivity is encouraged through transparency by disclosing subjective positioning during conclusions.

– Reliability is not rejected; however, the methods should be systematic, well-documented and designed to include subjectivities to establish dependability.

– Post-positivists accept multiple truths and acknowledge that phenomena are true according to experiences, which is the foundation of authenticity.

– In contrast to the logical positivist movement, where the scientist is independent and detached from the research, post-positivists believe there is a mutual influence.

4. Inductive and deductive approaches. Like paradigms, theories can be sweeping in their coverage. In a nutshell, theory might be thought of as a way of explanation or as "an explanatory statement that fits the evidence".

When researchers take an *inductive approach*, they start with a set of observations, and then move on from those specific experiences to a more general set of assumptions about those experiences. In other words, they move from data to theory, or from the particular to the general.

A *deductive approach* to research is one that people usually associate with scientific research. The researcher studies what others have done, reads the existing theories of whatever phenomenon he or she is studying, and then tests the hypotheses that flow from those theories.

5. Empirical research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief. ***Empirical research*** can be conducted and analysed using qualitative or quantitative methods.

Quantitative research: Quantitative research methods are used to gather information through numerical data. It is used to quantify opinions, behaviors or other defined variables. These are predetermined and are in a more structured format. Some of the commonly used methods are survey, longitudinal studies, polls, etc.

Qualitative research: Qualitative research methods are used to gather non numerical data. It is used to find meanings, opinions, or the underlying reasons from its subjects. These methods are unstructured or semi structured. The sample size for such a research is usually small and it is a conversational type of method to provide more insight or in-depth information about the problem Some of the most popular forms of methods are focus groups, experiments, interviews, etc.

Data collected from these will need to be *analysed*. Empirical evidence can also be analysed either quantitatively and qualitatively. Using this, the researcher can answer empirical questions which have to be clearly defined and answerable with the findings he has got. The type of research design used will vary depending on the field in which it is going to be used. Many of them might choose to do a collective research involving quantitative and qualitative method to better answer questions which cannot be studied in a laboratory setting.

Lecture 3
Planning of scientific psychological research

Lecture plan

1. The concept of the research program.
2. Definition of the problem and the research topic.
3. Planning, organizing, and conducting an experiment.
4. Preparation of report.

Basic concepts: scientific research, hypothesis, experiment, sampling.

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1. Scientific research involves the following eight stages:

1. Problem statement or problem definition.
2. Preliminary analysis of the available information, conditions, theoretical models and applied methods that can solve the selected problem.
3. Formulation of a hypothesis.
4. Planning, organizing, and conducting an experiment.
5. Analysis and generalization of the results obtained.
6. Verification of the original hypothesis based on the results obtained and the final formulation of new facts or relationships. Refutation or non-refutation of a hypothesis (s). In the case of refutation of the old one-the formulation of a new hypothesis (hypotheses).
7. Explanation (solution) of the problem and prediction of its further development.
8. Preparation of the research report.

2. The scientific problem and its formulation. The problem statement is the beginning of any research. **A problem** in a broad sense is a complex theoretical or practical issue that requires study and resolution. In science, it is a contradictory situation that appears in the form of opposing positions in the explanation of any phenomena, objects, or processes and requires an adequate theory to resolve it. An important prerequisite for a successful solution of the problem is its correct formulation. The essence of the problem for a person is such that it requires analysis, evaluation, the formation of an idea, a concept to find an answer (solution to the problem) with verification and confirmation in experience. A problem is mainly a

question that does not have an unambiguous solution (with a degree of uncertainty). The problem differs from the problem by the presence of uncertainty.

Thus, the conditions for the occurrence of the problem and the actions for its implementation are:

– Detection of information scarcity.

– Awareness of the need to eliminate this deficit.

– Description (verbalization) of the problem situation in natural language.

– Formulation of the problem in scientific categories and terms.

The problems are divided into:

– real problems

– "pseudo-problems" that seem significant.

– unsolvable problems (turning mercury into gold, creating a "perpetual motion machine", etc.)

The proof of the unsolvability of the problem itself is one of the options for its solution.

3. Planning, organizing, and conducting an experiment. *Literature Review or Extensive Literature Survey*

After the selection of research problem, the second step is that of literature mostly connected with the topics. The availability of the literature may bring ease in the research. For this purpose academic journals, conference and govt. reports and library must be studied.

Making Hypothesis

The development of hypothesis is a technical work depends on the researcher experience. The hypothesis is to draw the positive & negative cause and effect aspects of a problem. Hypothesis narrows down the area of a research and keep a researcher on the right path.

Preparing the Research Design

After the formulation of the problem and creating hypothesis for it, research Design is to prepare by the researcher. It may draw the conceptual structure of the problem. Any type of research design may be made, depend on the nature and purpose of the study. Design the information about sources, skill, time and finance is taken into consideration.

Sampling

The researcher must design a sample. It is a plan for taking its respondents from a specific areas or universe. The sample may be of two types:

– Probability sampling

– Non-probability sampling

Data collection

Data collection is the most important work, is researcher. The collection of information must be containing on facts which is from the following two types of researcher. Data collection may be from the following:

– Experiment

– Questionnaire

– Observation

– Interview

Data Analysis

When data is collected, it is forwarded for analysis which is the most technical job. Data analysis may be divided into two main categories.

Data processing: it is sub-divided into the following.

Data editing, data coding, data classification, data tabulation, data presentation, data measurement

Data exposition: Date exposition has the following sub-categories.

Description, explanation, narration, conclusion/findings, recommendations/suggestions

Hypothesis Testing

Research data is then forwarded to test the hypothesis. Do the hypothesis are related to the facts or not? To find the answer the process of testing hypothesis is undertaken which may result in accepting or rejecting the hypothesis.

Generalization and Interpretation

The acceptable hypothesis is possible for researcher to arrival at the process of generalization or to make & theory. Some types of research has no hypothesis for which researcher depends upon on theory which is known as interpretation.

Fig. 2 – Planning, organizing, and conducting research.

4. Preparation of Report. A researcher should prepare a report for which he has done is his work. He must keep in his mind the following points:

It should contain objectives, hypothesis, explanations and methodology of the research. It must be divided into chapters and every chapter explains separate title in which summary of the findings should be enlisted. The last section would be clearly of conclusions to show the main theme of the study.

Closing the Report

After the preparation of report, the last step in research process contains of bibliography, references, appendices, index and maps or charts for illustration. For this purpose the information should more clearer.

Lecture 4
Work with scientific psychological information

Lecture plan

1. Scientific publications.
2. Description of research methods.
3. The main formats of scientific information.

Basic concepts: scientific publication, article, book, thesis (dissertations), encyclopedia, electronic databases.

1. Scientific publications. Scientific publications are written by academics for academics. Their purpose is the presentation and discussion of research findings and the advancement of hypotheses and theories.

Although there is some variation from discipline to discipline, the main distinguishing characteristics of scientific publications are:

– a systematic structure, including descriptions of research methods
– complex scientific language
– quantitative data, graphs and tables, original text passages
– scholarly references

Popular scientific publications. Popular scientific publications are for lay people without specialist knowledge of the relevant field. The distinguishing characteristics of popular publications include:

– more accessible language
– more examples, less quantitative or detailed data
– less precise descriptions of research methods
– few, if any, references
– more general explanations of the subjects covered

Well-known popular scientific journals include: *Scientific American*, *Psychologies Magazine* and the scientific supplements included with certain newspapers.

Professional journals. The content of these publications is mainly of a practical nature and aimed at professional practitioners in a wide variety of individual fields. The distinguishing characteristics of professional publications include:

– a mix of complex and accessible language
– focus on the practice of a particular profession and the communication of information that is useful in this context
– references

Although it is generally important to distinguish between the different types of publication, some publications are not easy to put into one category.

Scientific publications have to satisfy certain scientific criteria. It must be possible for the reader of a scientific publication to verify the accuracy of the content. To this end, scientific publications are governed by certain agreements and quality criteria.

The author of a scientific publication is expected to specify the basis of the material presented in the publication. This is done in two ways:

– Description of research methods

– References

A scientific publication has one other important feature:

– It is subject to ‘peer review' (assessment by other academics).

– The agreements and criteria governing scientific publications were developed with printed material in mind, but they apply equally to information published by electronic means.

2. Description of research methods. A detailed description of an author's research methods enables the reader to critically assess how the author has arrived at the published findings. Most research reports have a formal structure, featuring the following elements:

– **Introduction** explaining the issue or problem addressed

– **Description of the method** by which the issue or problem has been addressed

– **Results** in the form of observations, measurements and analyses

– **Discussion** of the results and observations

– **Conclusions** of the research

Source references. Publications differ in terms of where reference details appear. The usual places are:

– At the bottom of each page (in the form of footnotes)

– At the end of each chapter

– At the end of the publication

Popular scientific publications sometimes include a list of consulted sources at the back, without specific references in the body text. Encyclopedias and textbooks often use a similar approach. In a formal scientific publication, however, this would not be acceptable.

Peer review. Scientific articles are often reviewed prior to publication by fellow academics who are in principle independent. The reviewers consider whether the publication is up to the academic standards of the day; only material that passes this review is published. This procedure is known as peer review.

Peer review is used mainly in the context of scientific journals, where it is organized by the publishers. The most authoritative scientific journals tend to have the strictest pre-publication review arrangements.

3. What are the different kinds of scientific publications? Scientific publications exist in many formats. The main formats are articles and books.

Articles. Individual contributions to newspapers, journals or conference proceedings. The latest research findings are typically published in the form of scientific articles.

Books. Self-contained publications devoted to one or more subjects, with a broader coverage than an article. There are different types of books, such as:

Textbooks. These are specially written for instruction to students. A textbook offers an introduction **Edited books.** Every chapter is written by a different person. The author of a chapter is an expert on a specific subject. The individual chapters are edited by one or more editors and bundled as one book. An edited book is more specific than a textbook.

Thesis or dissertations. These are academic works for which the author receives a degree after the exam (*for example, a Master of Psychology*).

Dictionaries contain definitions of terms used in one or more academic disciplines (*for example – APA Dictionary of Psychology*).

Encyclopedias can contain descriptions of terms and lengthy scientific articles on particular subjects or complete disciplines, reflecting academic knowledge and thinking at the time of publication (*for example Oxford Research Encyclopedia of Psychology https://oxfordre.com/psychology. Encyclopedia of Psychology: 8 Volume Set (2000). Alan E. Kazdin, PhD, Editor-in-Chief. Hardcover. 4128 pages*).

Traditionally publications used to be in paper format and were arranged on the shelves in a bookcase of a library. Nowadays the vast majority of publications is digitally published. The content is the same, the format is different.

The main formats are articles and books

Scientific publications don't exist in isolation, but serve as media for communication between academics and are therefore part of the wider scientific process. Academics communicate in various ways:

– through (informal) personal contact (discussions at work, phone conversations, e-mail and paper correspondence)

– orally at scientific conferences

– through scientific publications

– via social media

In this context, the key characteristics of scientific publications are that they are permanent and generally accessible. The limitations are possession (printed works) or license afgreements/subscriptions. Academics can use them to keep adding to their own knowledge over time and to make their personal contributions to the advancement of science and human understanding.

In new publications, this continuous passing on of knowledge is reflected in and facilitated by the inclusion of references to earlier publications.

In the course of time, a huge body of scientific publications has been created, distributed around the world in *libraries, archives and databases*, to which the academic community constantly refers.

Electronic databases in psychology.

What are they used for?

– Search for relevant information on the research topic.

– Compilation of bibliographic lists on the topic.

– Analysis of research directions in psychology (historical dynamics).

For research in psychology and human development, the following databases may be of especial use.

PsycINFO is the premier database for articles and other resources in the psychological sciences; it is the place where most students in psychology will begin their research. Maintained by the American Psychological Association, PsycINFO contains more than 4 million articles from more than 2,500 journals and other resources covering the full breadth of psychological science.

PubMed is the first stop for medical research, including in psychology and neuroscience. You will likely want to search it using the Medical Subject Headings.

Psychology Database Proquest's database of psychology articles. It has many journals not indexed by PsycINFO.

Web of Science is the world's most trusted publisher-independent global citation database.

Lecture 5
The procedural part of the research program

Lecture plan

1. Development of the procedural section of the research program.
2. Planning the research sample.
3. Planning research methods.
4. Data processing planning.
5. Planning of interpretation of results and formulation of conclusions.

Basic concepts: research plan, sample, method, technique, methods of descriptive statistics.

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1. The procedural section of the program focuses on the issues of procedure and techniques for collecting and processing information. The procedure is understood as a general system of actions of the researcher, both cognitive and organizational in nature. The procedural section of the program includes the preparation of

the research plan, sampling, determination of research methods and techniques, as well as the main procedures for data collection, processing and analysis.

The **research plan** (or "work plan") of the study reflects the practical activities of the entire course of the study. The main tasks of this plan are: to present a list of types of work; to calculate the number of participants; to calculate the time spent. The types of work that are reflected in the plan can be the following:

a) building a research concept (drawing up a program);

b) development of tools (methods, questionnaires, observation forms, etc.);

c) collection of information (survey, survey, observation units);

d) processing of the data (obtained information) of the study;

e) analysis and interpretation of the results (data) of the study.

2. The **sample** of the study directly depends on the purpose, objectives and hypotheses of the study. The more specific the goal, the more correctly the sampling issue will be resolved.

In a descriptive study, the sample should be strictly **representative.** The requirement of representativeness of the sample means that according to the selected parameters, the composition of the subjects should approach the corresponding proportions in the general population. However, it is impossible to ensure a strictly representative sample for all the parameters that are important for the research problem, and therefore it is necessary to guarantee representativeness in the main direction of data analysis.

If the experimenter plans to study the psychological characteristics of a particular group of people, the representative sample should be replaced by a **target sample.**

When describing the sample, the program provides the number of subjects, their gender, age, social status, educational institution, place of work, place of residence (name of the locality). Sometimes it is necessary to specify the method of attracting subjects to the sample or the method of dividing the sample into subsamples, if this information is essential for the study.

The minimum sample size is not set and is determined by the topic and methodology of the study.

3. Research methods are ways to collect data and then process it. It is necessary to distinguish between methods and technique of research.

Method – a method or way of knowing the phenomena of the psyche. There are different methods of organizing research, collecting data, processing results, and interpreting them. Psychological methods of data collection include observation, experiment, psychodiagnostic method, biographical method, etc. The processing methods include mathematical and statistical methods of data analysis.

Technique – a specific implementation of the method in accordance with the purpose of the study. An example is an observation scheme, a personal questionnaire, a test, or a drawing technique. Each technique has an author, a name, and is aimed at studying a specific mental phenomenon.

The choice of research methods is determined by the specifics of the object, subject, purpose, objectives, and hypotheses of the study. In addition, it is determined by the methodological basis of scientific work and the accumulated experience of research in this field.

Description of methods and techniques of data collection, which allows for a certain variety of ways of presentation: either the program lists the methods used, or provides a detailed justification for the use of each method, as well as their description with the application of techniques and tools.

Let us list the general requirements for the methods used in scientific research.

1. *Compliance with the theoretical foundations of the study*. When choosing from several methods aimed at measuring a single construct, it is necessary to analyze the theoretical foundations (psychological theories, concepts, approaches) on which diagnostic tools are built. This is necessary in order to understand whether a particular method is suitable for research, whether it does not conflict with the theoretical part of the work.

2. *A credible source*. Methods should be searched in scientific psychological journals (online and printed versions), monographs, collections of scientific articles or theses, methodological publications, and websites of authors-developers. It will be a mistake to search for the right method on random sites, in collections of tests intended for a wide audience, in popular science literature.

3. *Authorship*. A psychodiagnostic technique must have an author / authors. If the methodology was created abroad, then the authors of the adaptation of this methodology should be indicated.

4. *Psychometric data*. This is information about the validity, reliability of the methods, and the sample of standardization.

5. *Modernity of the technique.* When choosing a method, you may find that it has been revised (or translated) several times by different authors. In this case, it is worth paying attention to what scientific works used its versions and what results they allowed us to obtain. If possible, it is worth using updated versions of well-known, proven methods that have undergone critical revision and have a more representative sample of standardization, which determines a higher level of validity of psychometric indicators of the method.

4. Data processing planning. The choice of data processing methods is carried out in accordance with the purpose, objectives, and hypotheses of the study.

There is a distinction between quantitative and qualitative data processing.

Quantitative data processing involves working mainly with numerical values, which can be obtained by a particular technique after its implementation. In the most general form, quantitative methods of data processing can be divided into methods of descriptive statistics and methods of testing research hypotheses.

Methods of descriptive statistics include frequency counting, measures of central tendency (mode, median, arithmetic mean), measures of variability (variance, standard deviation), measures of distribution form (skewness, kurtosis). We emphasize that the choice of methods of descriptive statistics depends on the type of data obtained in the course of the study: for example, data on the sexual composition of the sample, usually taking two values, do not involve calculating the arithmetic mean, etc.

Software for quantitative (statistical) data processing – SPSS, Statistica, AMOS, etc.

Qualitative data processing assumes that in the course of the methodology, the researcher received textual (in the broadest sense of the word) data. The totality of text data is analyzed to translate it into numerical values, after which some methods of testing research hypotheses can also be applied to them.

The methods of modern qualitative analysis are quite diverse. The phenomenological analysis of A. Giorgi, the grounded theory method in the variants of B. Glazer and A. Strauss, qualitative content analysis, thematic analysis, and discourse analysis of J. Strauss are the most widely used in psychological research, narrative analysis, etc.

Almost all methods of qualitative analysis are aimed at *categorizing data, their meaningful rearrangement and reorganization.*

Currently, computer programs for qualitative data analysis (MAXqda, Nvivo, AQUAD, ATLAS.ti, DecisionExplore, Ethnograph, HyperRESEARCH, CAQDAS, Kwalitan, etc.) are widely used.)

5. Interpretation of the results. After processing the data, the stage of interpreting the results begins. Interpretation is an interpretation, an explanation of the facts obtained in the conducted research. In the process of interpretation, it is necessary to return to the ideas and data that make up the theoretical, methodological and empirical foundations of the study, and use them to explain the obtained facts. You should also compare your results with those described in other similar studies, identify the similarities and differences, and explain why they occur.

Conclusions of the study. The conclusions on the research area briefly describe its main results. In the program, they are described in the section "Expected results". Conclusions are drawn in accordance with the theoretical and empirical objectives of the study and should be correlated with hypotheses.

Thus, the procedural section of the program implements the connection between the content (conceptual part) of the study and the actual actions (procedures) of the researcher.

Lecture 6
Theoretical scientific psychological research

Lecture plan

1. Structure of the theoretical proof.
2. Basic concepts of hypothetical- deductive method.
3. Explicit-structured proof.
4. Implicit-structured proof.
5. Integrative-eclectic proof.

Basic concepts: theoretical proof, hypothetical- deductive method, explicit-structured proof, implicit-structured proof, integrative-eclectic proof.

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1. Theoretical psychology is concerned with theoretical and philosophical aspects of psychology. It is an interdisciplinary field with a wide scope of study. It focuses on combining and incorporating existing and developing theories of psychology non-experimentally.

Elements of the theory

Hypotheses – assumptions about the existence of relationships between the studied aspects of reality (usually causal). These assumptions are based on knowledge, or the observed manifestations of the phenomenon being studied. Being theoretical or empirical constructs, they act as a means of directing the research search.

Operational definitions – definitions of the studied phenomena, events, facts, designated by special concepts, theoretical constructs (nominal definitions) through the enumeration of their most significant manifestations or indicators, implicitly assuming special procedures that allow recording the results of their measurement or description. In traditional models of science, operationalization is a bridge between theoretically based hypotheses and the methods used to test their predictions.

The *hypothetical-deductive method* is a method of reasoning based on the deduction of consequences from hypotheses, which is widely used in the systematization of research results in natural science and empirical sciences in general.

Hypotheses – assumptions about the existence of relationships between the studied aspects of reality

2. Basic concepts of hypothetical - deductive method. A **hypothesis** is a well-formulated assumption about the relationship between variables (it can be based on intuition, personal experience, and, most preferably, on the results of previous research and theories).

All hypotheses must be verifiable, or in other words, the variables that are jointly analyzed must be clearly defined in such a way that any trained researcher can examine them in a similar way. The relations established in the hypothesis should be presented in such a way that it is possible to refute them.

Operationalization-the establishment of all variables contained in a hypothesis in such a way as to provide a means of observing the studied fragment of reality. Operational definitions are the most precisely defined, since they inform how the concept under study should be considered. Operationality is based on a measurement in which precise, usually quantitative, indices of the observed are derived. The measurements are evaluated according to two criteria: validity and reliability.

Control and manipulation. The significance of these factors is determined primarily by the fact that they represent the only way to establish causality. If one set of variables is set as constant (control) and the other as constantly changing (manipulation), then the researcher should identify the influence of the manipulated variable, without paying attention to the other variables as hiding the cause. Control and manipulation can be carried out directly, as in an experiment, or indirectly-through a certain kind of statistical processing.

Requirements for scientific hypotheses. 1. The relevance of a hypothesis is a necessary precondition for its acceptance, not only in science, but also in the practice of everyday thinking. The term "relevant" describes the relation of a hypothesis to the facts on which it is based. If these facts can be logically deduced from a hypothesis, then it is considered relevant to them. Otherwise, the hypothesis is called irrelevant, irrelevant to the available facts.

2. The verifiability of a hypothesis in the experimental and factual sciences is always associated with the possibility of its comparison with the data of observation or experiment, i.e., empirical facts. In this context, we are not talking about the need to test all the hypotheses put forward, but about the fundamental possibility of such a test.

3. Compatibility of hypotheses with existing scientific knowledge. This requirement is obvious, since modern scientific knowledge in any of its branches is not a collection of individual facts, their generalizations, hypotheses and laws, but a certain logically connected system.

4. Explanatory and predictive power of the hypothesis. In logic, the power of a hypothesis or any other statement is understood as the number of deductive consequences that can be deduced from them, along with certain additional information (initial conditions, auxiliary assumptions, etc.).

3. Explicit-structured theoretical proof. *Explicitly structured theories* are theoretical formulations characterized by the presence of detail and concretization of the elements of the presented theory, as well as their easy conventional empirical verification [Franklin, 1982, p. 39]. In an explicitly structured theoretical proof, all deduced theoretical propositions must be built on certain empirical grounds.

Methods of explicit-structured theoretical proof

Induction-accumulation and generalization of the results of empirical research on the principle of from particular to general.

Deduction-the formulation of abstract concepts and postulates from which lower-order assumptions are derived, which are subject to verification on the principle from general to particular.

Reproduction is a combination of induction and deduction in the process of consistently approaching a theoretical generalization on the principle of from the general to the particular and from the received.

Abduction-grasping the code of the relationship of empirical data when it is impossible to fully verify them.

Verification of scientific evidence in an explicitly structured theoretical proof

1. Definition of concepts involving:

1.1. designation and classification of information units, including special and fixed procedures designed to isolate certain empirical content and clarify it in operational definitions. Experimental design of concepts and their quantitative indices, as well as justification of the validity of the constructed concepts, their properties and measurement levels used in the definition process.

1.2. determination of the properties of the concept or object to be investigated, as well as methods for their evaluation;

1.3. discussion of the measurement level (nominal, ordinal, interval, proportional).

2. Constructing assumptions that should be checked, assuming:

2.1. establishment of cause-effect and correlation relations, aimed at establishing precisely significant for the studied phenomenon;

2.2. development of variables that can be "explanatory", "interpretative", "conditioned", etc.;

2.3. the choice of a research method, usually an experiment, which in turn assumes: (1) the presence of an experimental and control group, which (2) are tested for certain factors to be subsequently checked (dependent variables); (3) presenting the experimental group with a test stimulus (independent variables) that is not presented to the control group; and (4) post-test measurement of the observed factor (dependent variable) in the experimental and control groups in order to determine the influencing independent variable.

4. Implicit-structured theoretical proof. hypotheses, as well as the continuation of subsequent analysis even after achieving the appearance *Implicitly*

structured theories – theories characterized by the presence of all the necessary elements of the theory, but poorly or completely detailed or concretized, as well as poorly structured in terms of determinism or materialization of the phenomenon under discussion.

Methods of implicit-structured theoretical proof:

Descriptive explication is the construction of a theory in the form of a dialogue with an interested qualified reader that allows you to operate with abstractions of a very wide order.

Sensitization is the progression in the conceptualization and study of the analyzed phenomenon.

Analytical induction is an extension of a theoretical explanation by extrapolating it to a boundary class of phenomena.

Necessary steps of analytical induction:

1. Approximate definition of the phenomenon.
2. A hypothetical explanation of the phenomenon.
3. The study of one of the cases suggested by the hypothesis to determine its compliance with the hypothesis.
4. Reformulating the hypothesis if necessary, or redefining or excluding the phenomenon.
5. Achieving practical results and reformulating the hypothesis in case of exceptions to the hypothesis.
6. Continuation of the reformulation of the hypothesis until the establishment of universal rules.
7. Inclusion of cases from other related problem areas in the analysis plane [Franklin, 1982, p. 46].

Many implicit-structured theories, taking the form of analytical induction, are determined by the need to go through a series of successive steps, which in turn test pre-formulated hypotheses and universal explanations. A distinctive feature of such theorizing is the possibility of repeated reformulation of of a universal explanation.

Verification of an implicitly structured theoretical proof. The verification of implicit-structured theories is usually carried out by means of methods of investigation, inspection and generalization representing a number of successive phases of proof:

Research phase-represents the descriptive phase of constructing implicitly structured theories and is characterized by the development of basic concepts. In this phase, the researcher is determined in what is relevant and relevant to the problem area. Both the meaning and the sense of concepts are understood mainly through empirical testing. At this stage, general ideas, guidelines, solutions, etc. are formulated. It also prepares for the transition to the second phase-the inspection.

Inspection phase-involves careful consideration of the proposed theory. It represents the phase of analysis in which the discovery of new data makes it possible to determine the methods necessary to complete the construction of the theory. It is

characterized by the use of included observation and structured interviews aimed at clarifying existing qualities, definitions of the situation, shared values, and other aspects of the problem area. It is also possible to use field studies, including deep samples, research reports, etc. The main feature of this phase is the definition of the methods that will be used to complete the construction of the theory. At the same stage, the preparation for the transition to the generalization phase is carried out.

Generalization phase-involves the presentation of conclusions from the analyzed multiple realities. Generalizations should not be considered as absolute and objective, but to the extent that they represent these multiple realities.

5. Integrative-eclectic proof. Scientific rigor and certainty, adequacy and consistency, both in the field of theoretical and empirical evidence, constitute the psychological culture of research. The integrative-eclectic approach, focused on the theoretical and methodological support of scientific dialogue in the existing conditions of multidimensional approaches and solutions, is aimed at the formation of this culture of proof.

In methodological terms, the use of the principle of integrative-eclectic dialogue of alternative traditions is advisable both at the stage of entering into the problem and at the stage of interpreting the obtained data. In the first case, it is useful to get acquainted with alternative research, which creates the basis for the author's self-determination. The implementation of this principle is carried out, for example, through the development of comparative tables that demonstrate the concepts, methods, interpretations and main results used in different approaches. This comparison allows you to clearly determine the advantages and limitations of a particular approach or solution. In the second case, it provides an opportunity to check the completeness and comprehensiveness of the interpretation of the results obtained, as well as to outline the directions, ways and means of possible additional research and interpretation of the data.

PRACTICAL AND SEMINARS

Practical 1
Introduction to the subject. The specifics of psychological scientific knowledge

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What is the essence of the history of professional application of psychological knowledge?

– Reveal the specifics of psychological knowledge.

– Determine the relationship between psychology and the life experience of a person.

– What are the fundamental differences between scientific and everyday psychological knowledge?

– What is the difference between basic and applied research? Which of them is given priority in science? Why?

3. Practical task

1. Match the sentences:

Science –

Psychology –

Psychological knowledge –

– is a general way of understanding the natural world. Its three fundamental features are systematic empiricism, empirical questions, and public knowledge.

– is a science because it takes the scientific approach to understanding human behavior.

– a person's knowledge of himself as a carrier of special psychological properties and characteristics, a subject of mental activity.

2. Organizational methods (according to Ananyev) include:

– comparative, longitudinal, complex methods

– quantitative and qualitative methods

3. Empirical methods (according to Ananyev) include:

– observation, analysis of products of activity, psychodiagnostic methods

– comparative methods

4. Academician B. M. Kedrov placed psychology at the center:

– pyramids of needs

– triangle of sciences

– pascal's triangle

5. Select the correct words from the list and enter them in the gaps: Basic, Applied, …. research in psychology is conducted primarily for the sake of achieving a more detailed and accurate understanding of human behavior, without necessarily trying to address any particular practical problem.

… research is conducted primarily to address some practical problem.

Practical 2
Types of scientific psychological research

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What are the features of scientific thinking in psychology and what is their essence?

– What is the research method?

– How are the concepts of "method", "methodology", "methodology" related to each other?

3. Practical tasks

1. Match the sentences:

Research in psychology –

Research –

Methodology –

– is a system of principles and methods of organizing and constructing theoretical and practical activities.

– is a complex, purposeful, analytical-synthetic, intellectual cognitive activity that originates from practice and returns to it, the characteristic feature of which is the systematic systematic study of objects of real reality by precisely established methods and means.

– is the systematic, controlled, empirical study of hypotheses about the supposed relationships between psychological-behavioral and organizational phenomena.

2. Is this statement true?

Research involves understanding the relationship between theory, philosophy (ontology and epistemology), methodology and methods.

3. Compare 4 levels of methodology:

The highest level -

General scientific methodology-

Specific scientific methodology-

Research methodology and technique-

is the philosophical methodology, which consists of the general principles of knowledge and the categorical structure of science as a whole.

i.e. a set of approaches, principles, and procedures applied in a particular scientific discipline.

is the second level, representing general scientific concepts that affect many scientific disciplines.

is a set of procedures that ensure the receipt of reliable empirical material and its processing, after which it can be included in the array of knowledge, which is highly specialized methodological knowledge.

4. Is this statement true?

All methodological levels are interconnected and form a complex system, while the philosophical level acts as the basis, the basis of all methodological knowledge.

5. Insert the missing word

The success of the research, the objectivity of obtaining knowledge is primarily due to the choice of the research .....

6. Select research objectives in psychology:

– Definition, identification of new relationships, data, which, although they cannot be considered as final results, but allow us to answer a number of unresolved questions.

– Verification and confirmation of certain facts or theoretical propositions.

– Ontological knowledge of reality.

Practical 3
Paradigms, theories, and researcher's approach

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

Explain the role of the paradigm in the development of scientific knowledge.

What is the meaning of the principle of falsifiability of scientific knowledge?

What is verification?

What is the relationship between the empirical and theoretical levels of scientific knowledge?

3. Practical task

1. Select the words from the list and fill in the blanks: Quantitative, Positivism, social, Post-positivism, inductive, Qualitative,

1. ..... is a widespread trend in philosophy, founded in the 1930s by the French philosopher Auguste Comte (1798-1857).

2. ..... is also known as methodological pluralism.

3. Key to the social constructionist perspective is the idea that ..... context and interaction frame our realities.

4. When researchers take an ..... approach, they start with a set of observations, and then move on from those specific experiences to a more general set of assumptions about those experiences.

5. ..... research methods are used to gather information through numerical data.

6. ..... research methods are used to gather non numerical data.

2. Is the statement true?

Empirical research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief.

3. Is the statement true?

The post-positivist paradigm evolved from the positivist paradigm.

4. Is the statement true?

Social constructionism argues that "truth" is a changeable, socially constructed, and ever-changing concept.

5. From a positivist perspective, credible research is determined by:

– objectivity, reliability, validity, generalisability, reproducibility.

– subjectivity, the methods should include subjective factors to establish reliability.

Practical 4
Working with scientific psychological information

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What is the difference between research objectives and a scientific problem?

– How is the novelty of the study determined?

– What allows you to identify and determine the novelty?

– The novelty and main provisions: the General and distinctive.

– What are the main elements of information design?

– What is the information design of the study related to?

– What is included in a research procedure?

– What is the classification of operations research tasks according to the level of information?

– What should be considered when analyzing the literature used?

– What is the primary purpose of literature research?

3. Practical task:

1. Is the statement true? The purpose of scientific publications is to present and discuss the results of research, put forward hypotheses and theories.

2. The structure of scientific articles includes the following elements (choose the correct answers):

– Applications

– Materials and methods

– Results

– Discussion

– Raw data

– Conclusions

3. Is the statement true? The distinguishing characteristics of popular publications include:

– a mix of complex and accessible language

– focus on the practice of a particular profession and the communication of information that is useful in this context

– references

4. Is the statement true? The distinguishing characteristics of professional publications include:

– more accessible language

– more examples, less quantitative or detailed data

– less precise descriptions of research methods

– few, if any, references

– more general explanations of the subjects covered

5. Match the sentences

Articles –

Thesis or dissertations –

Encyclopaedias –

Dictionaries –

Textbooks –

– contain definitions of terms used in one or more academic disciplines (for example – APA Dictionary of Psychology).

– these are academic works for which the author receives a degree after the exam (for example, a Master of Psychology).

– individual contributions to newspapers, journals or conference proceedings.

– these are specially written for instruction to students.

– can contain descriptions of terms and lengthy scientific articles on particular subjects or complete disciplines, reflecting academic knowledge and thinking at the time of publication.

6. What are electronic databases used for in psychology?

– Search for relevant information on the research topic

– Search for entertainment literature

– Compilation of bibliographic lists on the topic

– Analysis of research directions in psychology

7. Insert the missing words:

…… has been created, distributed around the world in libraries, archives and databases, to which the academic community constantly refers.

Practical 5
Planning of scientific psychological research. Part 1

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– How is the hypothesis built?

– What are the conditions for the validity of the hypothesis?

– Explain how a psychological hypothesis should meet certain methodological requirements and why?

3. *Practical task*

Describe the stages of your master's research according to the plan:

1. Problem statement.

2. Preliminary analysis of the available information, conditions, theoretical models and applied methods that can solve the selected problem.

3. Formulation of a hypothesis.

4. Planning, organizing, and conducting an experiment.

5. Analysis and generalization of the results obtained.

6. Verification of the original hypothesis based on the results obtained and the final formulation of new facts or relationships.

7. Explanation of the problem and prediction of its further development.

8. Preparation of the research report.

Practical 6
Planning of scientific psychological research. Part 2

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What are the main components of the scientific apparatus?

– What is the contradiction of the study? How do they line up?

– Name the features of the choice of the problem and the topic of the study.

– What is the rationale for the relevance of the study?

– What is the relationship between object and object?

– How are the goals and objectives of the study determined?

3. Practical task

1. Is this statement true?

1. Data collection may be from the following:

– Experiment

– Questionnaire

– Observation

– Interview

2. The sample may be of two types:

– Probability sampling

– Non-probability sampling

3. After the selection of research problem, the second step is that of literature mostly connected with the topics.

4. Some types of research has no hypothesis for which researcher depends upon on theory which is known as interpretation.

5. The last section would be clearly of conclusions to show the main theme of the study.

6. After the preparation of report, the last step in research process contains of bibliography, references, appendices, index and maps or charts for illustration.

7. Specify the stages of scientific research in their logical order:

1-2-3-4-5-6-7-8

Formulation of a hypothesis

Planning, organizing, and conducting an experiment.

Problem statement.

Preliminary analysis of the available information, conditions, theoretical models and applied methods that can solve the selected problem.

Explanation of the problem and prediction of its further development.

Analysis and generalization of the results obtained.

Verification of the original hypothesis based on the results obtained and the final formulation of new facts or relationships.

Preparation of the research report.

Practical 7
Theoretical scientific psychological research

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What is the essence of theoretical proof in psychological research?

– What is the essence of the structure of a theoretical proof?

– Identify the differences between explicit-structured proof, implicit-structured proof, integrative-eclectic proof.

– What are the possibilities and limitations of the methods?

3. Practical task:

1. Compare the methods of explicit-structured theoretical proof

1. *Deduction –*
2. *Abduction –*
3. *Induction –*
4. *Reproduction –*

– accumulation and generalization of the results of empirical research on the principle of from particular to general.

– the formulation of abstract concepts and postulates from which lower-order assumptions are derived, which are subject to verification on the principle from general to particular.

– is a combination of induction and deduction in the process of consistently approaching a theoretical generalization on the principle of from the general to the particular and from the received.

– grasping the code of the relationship of empirical data when it is impossible to fully verify them.

2. Compare the methods of implicit-structured theoretical proof:

1. *Descriptive explication –*
2. *Sensitization –*
3. *Analytical induction –*

a. is the construction of a theory in the form of a dialogue with an interested qualified reader that allows you to operate with abstractions of a very wide order.

b. is the progression in the conceptualization and study of the analyzed phenomenon.

c. is an extension of a theoretical explanation by extrapolating it to a boundary class of phenomena.

3. Is this statement true?

1. The integrative-eclectic approach, focused on the theoretical and methodological support of scientific dialogue in the existing conditions of multidimensional approaches and solutions, is aimed at the formation of this culture of proof.

2. Theoretical psychology is concerned with theoretical and philosophical aspects of psychology. It is an interdisciplinary field with a wide scope of study. It focuses on combining and incorporating existing and developing theories of psychology non-experimentally.

3. Hypotheses – assumptions about the existence of relationships between the studied aspects of reality (usually causal).

4. A hypothesis is a well-formulated assumption about the relationship between variables (it can be based on intuition, personal experience, and, most preferably, on the results of previous research and theories).

4. Insert the missing words in the sentences:

..... structured theories are theoretical formulations characterized by the presence of detail and concretization of the elements of the presented theory, as well as their easy conventional empirical verification

..... structured theories – theories characterized by the presence of all the necessary elements of the theory, but poorly or completely detailed or concretized, as well as poorly structured in terms of determinism or materialization of the phenomenon under discussion.

The ..... approach, focused on the theoretical and methodological support of scientific dialogue in the existing conditions of multidimensional approaches and solutions, is aimed at the formation of this culture of proof.

The ..... method is a method of reasoning based on the deduction of consequences from hypotheses, which is widely used in the systematization of research results in natural science and empirical sciences in general.

MODULE 2
THE ESSENCE OF EMPIRICAL RESEARCH DESIGN

THEORETICAL SECTION

Lecture 7
Empirical scientific psychological research

Lecture plan

1. Methods and methodology of empirical research.
2. Quantitative research methods.
3. Qualitative research methods.
4. Methodological triangulation.
5. Types of research designs.

Basic concepts: empirical research, quantitative research methods, qualitative research methods, methodological triangulation.

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1. Psychologists use many different methods for conducting research. Each method has advantages and disadvantages that make it suitable for certain situations and unsuitable for others.

Methods of empirical research. "Empirical" literally means "what is perceived by the senses". When this adjective is used in relation to the methods of scientific research, it serves to refer to techniques and methods related to sensory (sensory) experience.

Method, scientific-a research process guided by the principles of skepticism and openness, used to generate testable theories based on the generalization of previous observations and the prediction of the results of future observations.

The most important and necessary prerequisite of the ***methodology of empirical research*** is that it provides the possibility of its reproduction and confirmation / refutation. The predilection of empirical research for "rigorous data"

requires a high internal consistency and stability of the means of measuring those *independent and dependent variables* that are involved for the purpose of scientific study. Internal consistency is the main condition for sustainability; measurement tools cannot be highly or at least sufficiently reliable if these tools, which supply raw data for subsequent analysis, do not produce high intercorrelations. Failure to meet this requirement contributes to the introduction of error variance into the system and leads to ambiguous or misleading results.

2. There are many other ways of collecting information; some are general scientific methods, and some are particular to psychology. The research methods used in psychology depend on the kinds of data that are being studied and the goal and breadth of the studies.

Quantitative research methods – methods focused on obtaining strictly objective, i.e. *quantifiable data*. Based on the positivist methodology, which claims as the basis of scientific research of operationalization and verification, quantitative methods are characterized by a high level of validity and reliability, structurality, while at the same time a low level of realistic naturalness, constructive and environmental validity. Quantitative data can be collected under controlled or in vivo conditions, in laboratory or field studies, in specific populations, or in general sample populations.

The main advantage of quantitative studies is that the data obtained through them can be the subject of a variety of statistical analysis, can be generalized beyond the research sample, allow you to test hypotheses and evaluate the effectiveness of interventions in various areas of interest.

Reliability is considered as the quality of the tool (for example, tests or an observation scheme) that the researcher uses to measure the phenomenon under study. A tool is considered reliable if it consistently reproduces similar results in relation to the same individuals being compared.

Validity is considered as the correspondence of the instrument to the studied phenomenon.

Internal validity represents the ability of the instrument used in the study to measure what it should measure. Internal validity can be evaluated in a number of ways: by correlating the results of an instrument with those obtained through another instrument that has already confirmed its validity (consistent validity), by determining the accuracy of predicting what the instrument should predict (predictive validity), or by determining the ability of the instrument (or inability) to confirm reasonable hypotheses about theoretical constructs whose operationalization is measured by the instrument (constructive validity).

External validity (generalizability) shows the applicability of the measurement results in relation to large population groups.

3. Qualitative research methods. *Qualitative research* – research that studies aspects of social life that are not available for quantitative measurement. Associated with a variety of paradigmatic and theoretical perspectives, qualita-

tive research uses a wide range of methods that focus on the meanings and interpretations of social phenomena and social processes in the specific contexts in which they occur.

Depending on the paradigm preferences, all qualitative methods have a number of common characteristics: they are conducted in interaction with real people; they focus on the meanings expressed by study participants in relation to behavior; and they draw attention to the social, cultural, and natural contexts in which people live, work, and interact.

The development of this type of research was largely due to dissatisfaction with the "numerical" methods of traditional experimental psychology. Qualitative methods are based on the idea that reality is not an objective reality, but is socially constructed by the participants ' descriptions of life experiences or through social interaction.

Validity in qualitative research is considered as the ability of the tool to exhaustively grasp and describe the properties and qualities of the studied phenomenon in the real conditions of its manifestation.

4. Methodological triangulation is a combination of qualitative and quantitative methods, called the third way, which leads to combining the advantages of both methodologies, and as a result-obtaining more reliable data. For the first time in relation to the methodology of psychological research, this term was used by D. T. Campbell [1959].

Types of methodological triangulation

Triangulation-involves checking the consistency of data obtained through various variations of qualitative and quantitative methods.

Complementarity-involves clarifying and illustrating the results obtained by methods of one class, methods of another class.

Development – results obtained by methods of one class, methods of another class.

Initiation – new research questions or changes in the results obtained by methods of one class, methods of another class.

Conditions for the effectiveness of methodological triangulation:

– A clear definition of the issue under study.

– Compensation of the strengths and weaknesses of each method by the productive capabilities of each other.

– The suitability of the selected methods for the phenomenon under study.

Optimal combinations of quantitative and qualitative methods

– Qualitative methods, especially observation or unstructured interviews, allow the researcher to develop a holistic "portrait" of the subject under study. This is especially important for the initial stage of the study.

– Quantitative analysis is more suitable for studying behavioral or descriptive components.

– Quantitative analysis can complement the results of qualitative discoveries by showing the extent of their spread.

– Quantitative methods have a significantly lower explanatory value, while qualitative methods are able to provide the necessary grounds for a deep explanation of the phenomenon under study.

5. Types of research designs. Research of different psychologists is designed with different goals in mind, and the different goals require different approaches. A **research design** is *the specific method a researcher uses to collect, analyze, and interpret data*. Psychologists use three major types of research designs in their research, and each provides an essential avenue for scientific investigation.

Descriptive research is research designed to provide a snapshot of the current state of affairs.

Correlational research is research designed to discover relationships among variables and to allow the prediction of future events from present knowledge.

Experimental research is research in which initial equivalence among research participants in more than one group is created, followed by a manipulation of a given experience for these groups and a measurement of the influence of the manipulation.

Each of the three research designs varies according to its strengths and limitations, and it is important to understand how each differs (Table 1).

Table 1 – Research designs varies

Goal	Research design	Advantages	Disadvantages
To create a snapshot of the current state of affairs	Descriptive	Provides a relatively complete picture of what is occurring at a given time. Allows the development of questions for further study.	Does not assess relationships among variables. May be unethical if participants do not know they are being observed.
To assess the relationships between and among two or more variables	Correlational	Allows testing of expected relationships between and among variables and the making of predictions. Can assess these relationships in everyday life events.	Cannot be used to draw inferences about the causal relationships between and among the variables.
To assess the causal impact of one or more experimental manipulations on a dependent variable	Experimental	Allows drawing of conclusions about the causal relationships among variables.	Cannot experimentally manipulate many important variables. May be expensive and time consuming.

Source: Stangor, C. (2011). Research methods for the behavioral sciences (4th ed.). Mountain View, CA: Cengage.

Correlational Research Methods. Case studies, surveys, naturalistic observation, and laboratory observation are examples of **Descriptive** or **Correlational Research Methods**. Using these methods, researchers can describe different events, experiences, or behaviors and look for links between them. However, these methods do not enable researchers to determine causes of behavior. A **Correlation Coefficient** measures the strength of the relationship between two variables. A correlation coefficient is always a number between –1 and +1. *A Positive Correlation* (+) means that as one variable increases, the other does too. A *Negative Correlation* (–) means that when one variable increases, the other one decreases.

Remember: Correlation Is ***not*** The Same As Causation. Two factors may be related without one *causing* the other to occur. Often, a third factor explains the correlation.

Surveys. A **Survey** is a way of getting information about a specific type of behavior, experience, or event. When using this method, researchers give people questionnaires or interview them to obtain information. When subjects fill out surveys about themselves, the data is called **Self-Report Data**.

An **interview** is generally a *qualitative research* technique which involves asking open-ended questions to converse with respondents and collect elicit data about a subject. In a *structured* interview, it is assumed that the researcher will always stick to the list of solved questions, regardless of how interesting the conversation with the participants turns out to be. *Semi-structured interviews* offer a considerable amount of leeway to the researcher to probe the respondents along with maintaining basic interview structure. Also called as in-depth interviews, *unstructured interviews* are usually described as conversations held with a purpose in mind – to gather data about the research study. These interviews have the least number of questions as they lean more towards a normal conversation but with an underlying subject.

Observation. When using **naturalistic** observation, researchers collect information about subjects by observing them unobtrusively, without interfering with them in any way. With naturalistic observation, researchers face the challenge of getting a clear view of events without becoming noticeable to the subjects. Unlike observation in a natural setting, **laboratory** observation offers researchers some degree of control over the environment.

Experiment. In science, experiments are the most often-used method of research, and there are principles involved in its employment. **One** is the presence of a control group. This is an individual, or a group of individuals, that is not manipulated. **Another principle** is the control of variables. That is, the experiment should be as free of extraneous data as possible. That factor enables psychologists to repeat the experiment, and that is one requirement of reliable research. **A third principle** is the consistency of measurements. Experiments can be laboratory-controlled such as sleep studies, field experiments which allow the

psychologist to manipulate the subject but not his environment, or natural experiments which allow no control and are largely observational.

Psychological Tests. Researchers use **Psychological Tests** to collect information about personality traits, emotional states, aptitudes, interests, abilities, values, or behaviors. Researchers usually **Standardize** these tests, which means they create uniform procedures for giving and scoring them. When scoring a test, researchers often compare subjects' scores to **Norms**, which are established standards of performance on a test. A well-constructed standardized test can evaluate subjects better than self-report data.

Content Analysis can be both *quantitative* (focused on counting and measuring) and *qualitative* (focused on interpreting and understanding). In both types, you categorize or "code" words, themes, and concepts within the texts and then analyze the results. Qualitative content analysis is a distinct procedure from quantitative content analysis. This form of analysis is useful for analyzing large amounts of verbal data collected through interviews or focus groups and also offers possibilities for quantification of categories.

Lecture 8
Ethical issues of psychological research

Lecture plan

1. Ethical Issues.
2. The APA Ethics Code.
3. Some practical tips for conducting ethical research in psychology.

Basic concepts: ethical issues, research ethics, informed consent, The *APA Ethics Code.*

References

1. Ethical Principles of Psychologists and Code of Conduct / https://www.apa.org/ethics/code

2. Price, P. Research Methods in Psychology. 2nd Canadian Edition / https://ecampusontario.pressbooks.pub/researchmethods/

1. Ethics are broadly the set of rules, written and unwritten, that governs our expectations of our own and others' behavior.

Research ethics focus on the moral principles that researchers must follow in their respective fields of research.

Ethical Issues. Researchers must act responsibly and with integrity. This means carrying out their research in a thorough and competent manner, meeting their professional obligations, and being truthful.

Informed consent is when participants are able to make an informed judgement about whether to take part. It causes them to guess the aims of the study and

change their behavior. To deal with it, we can gain presumptive consent or ask them to formally indicate their agreement to participate but it may invalidate the purpose of the study and it is not guaranteed that the participants would understand.

Deception should only be used when it approved by an ethics committee as it involves deliberately misleading or withholding information. Participants should be fully debriefed after the study but debriefing can't turn the clock back.

All participants should be informed at the beginning that they have the Right to Withdraw if they ever **feel distressed or uncomfortable**. It causes bias as the ones that stayed are obedient and some may not withdraw as they may have been given incentives or feel like they're spoiling the study. Researchers can offer the right to withdraw data after participation.

Participants should all have **Protection from harm**. The researcher should avoid risks greater than experienced in everyday life and they should stop the study if any harm is suspected. However, the harm may not be apparent at the time of the study.

Confidentiality concerns the communication of personal information. The researchers should not record any names but use numbers or false names though it may not be possible as it is sometimes possible to work out who the researchers were.

While these issues are indeed a key part of research ethics, there are also wider issues about standards of conduct. These include the importance of publishing findings in a transparent way, not plagiarising others' work, and not falsifying work.

2. The APA Ethics Code. There are several written ethics codes for research with human participants that provide specific guidance on the ethical issues that arise most frequently. These codes include the *Nuremberg Code, the Declaration of Helsinki, the Belmont Report, and the Federal Policy for the Protection of Human Subjects.*

The *APA Ethics Code* is the most important ethics code for researchers in psychology. It includes many standards that are relevant mainly to clinical practice, but *Standard 8* concerns informed consent, deception, debriefing, the use of nonhuman animal subjects, and scholarly integrity in research.

Researchers must *respect people's rights* and dignity as human beings. One element of this is respecting their autonomy – their right to make their own choices and take their own actions free from coercion. Of fundamental importance here is the *concept of informed consent*.

Informed Consent. Standards 8.02 to 8.05 are about informed consent. Again, informed consent means obtaining and documenting people's agreement to participate in a study, having informed them of everything that might reasonably be expected to affect their decision. This includes details of the procedure, the risks and benefits of the research, the fact that they have the right to decline to participate or to withdraw from the study, the consequences of doing so, and any legal limits to confidentiality. This means that researchers obtain and document people's agreement to

participate in a study after having informed them of everything that might reasonably be expected to affect their decision.

Respect for confidentiality. Another element of respecting people's rights and dignity is *respecting their privacy* – their right to decide what information about them is shared with others. This means that researchers must maintain *confidentiality*, which is essentially an agreement not to disclose participants' personal information without their consent or some appropriate legal authorization.

Scholarly Integrity. Academic integrity is the commitment to and demonstration of honest and moral behavior in an academic setting. This is most relevant at the university level as it relates to providing credit to other people when using their ideas. In simplest terms, it requires acknowledging the contributions of other people. Failure to provide such acknowledgement is considered plagiarism.

Standards 8.10 to 8.15 are about scholarly integrity. These include the obvious points that researchers must not fabricate data or plagiarize. Plagiarism means using others' words or ideas without proper acknowledgment. Proper acknowledgment generally means indicating direct quotations with quotation marks *and* providing a citation to the source of any quotation or idea used.

3. Some practical tips for conducting ethical research in psychology. It is important to remember that ethical issues arise long before you start collecting data, and continue to arise during and after publication.

Know and accept your ethical responsibilities. The first thing you should do as a new researcher is to know and accept your ethical responsibilities.

If any standard, policy, or procedure is unclear - or you don't know what to do about an ethical issue that has arisen - you should seek clarification. You can do this by reviewing the relevant codes of ethics, reading about how similar issues have been addressed by others.

Identify and minimize risks. As you design your study, you must identify and minimize risks to participants. Start by listing all the risks, including risks of physical and psychological harm and violations of confidentiality.

Create informed consent and debriefing procedures. Once you have settled on a research design, you need to create your informed consent and debriefing procedures.

Lecture 9
Presentation of the results of scientific psychological research: requirements for the content and design of dissertations (thesis)

Lecture plan

1. Classification of forms of presentation of the results of research work.
2. Requirements for the content and design of dissertations (thesis).

Basic concepts: report, scientific article, monograph, dissertation (thesis).

References

Instruction for Master's thesis

1. Classification of forms of presentation of the results of research work. The main forms of presentation of research results are: report, literary review, scientific article, monograph, dissertation or thesis, etc.

A **report** is a document that presents information in an organized format for a specific audience and purpose. Although summaries of reports may be delivered orally, complete reports are almost always in the form of written documents.

A **scientific article** reports the results of original research, assesses its contribution to the body of knowledge in a given area, and is published in a peer-reviewed scholarly journal. Research articles generally consist of the following components: a title and abstract, an introduction, a methodology, results, discussion, and references.

Monograph. In the English word, "mono-" means "single" and "-graph" means "something written". Unlike a textbook, which surveys the state of knowledge in a field, the main purpose of a monograph is to present primary research and original scholarship ascertaining reliable credibility to the required recipient. This research is presented at length, distinguishing a monograph from an article. For these reasons, publication of a monograph is commonly regarded as vital for career progression in many academic disciplines. Intended for other researchers and bought primarily by libraries, monographs are generally published as individual volumes in a short print run.

A **dissertation (thesis)** is a scientific qualification work, the successful completion of which is one of the requirements for obtaining a *scientific or academic (master's) degree.*

2. Dissertation or thesis. Not all dissertations are structured exactly the same – the form your research takes will depend on your *location*, discipline, topic and approach.

These requirements establish the procedure for the implementation and defense, as well as the general rules for the presentation and registration of abstracts, term papers, theses, master's thesis, as well as research works of students included in the educational process of the educational institution "VSU named after P.M. Masherov".

The master's thesis should include: title page; abstract; content; list of abbreviations, symbols, symbols and terms (if necessary); introduction; main part; conclusion; list of sources used; appendices (if necessary).

Title page. The very first page of your document contains your dissertation's title, your name, department, institution, degree program, and submission date. etc.

The **abstract** should include: information on the *volume* of the master's thesis, the *number of illustrations, tables, appendices, used literature; list of keywords; the text of the abstract.*

The list of **keywords** characterizes the main content of the master's thesis and includes from 5 to 15 words in the nominative case, written separated by commas in a line in capital letters.

The volume of the abstract text is 1600–2200 printed characters (one page). The text of the **abstract** should reflect the **object and subject of research**, the **purpose** of the work, the research **methodology**, the **results** obtained and their **novelty**, the degree of **implementation** or **recommendations** for the implementation of research results, the scope, economic efficiency or significance work.

The **content** sequentially lists all the titles of the master's thesis: introduction, numbers and titles of sections and subsections, conclusion, list of used literature and appendices (if necessary), indicating the page number on which each title is placed.

As a rule, a dissertation in psychology consists of **2–3 chapters**:

1. *Analytical review* of the literature on the research problem.
2. *Empirical research* of a scientific problem.
3. *Recommendations for the practical application* of the research results.

The **introduction** consists of:

– relevance of the topic of the dissertation research;

– the object and subject of the research;

– goals and objectives of the study;

– methods and organization of the research (methodological grounds; methods; proposed methods of statistical data processing);

– scientific novelty of the research;

– theoretical and practical significance of the research.

Relevance of the topic. The scientific problem of the research is formulated, the degree of its development is indicated, the place of the research among other similar studies in the same field, the need for research to solve a specific problem (objectives), the development of specific directions in the relevant field.

The object of research is a process or phenomenon that generates a specific problem situation.

The subject of research is the specification of the object of research.

Goal and objectives of the study. The purpose of the study focuses on its final result; the objectives formulate questions that should be answered in order to achieve the goal of the study. When defining objectives, it should be borne in mind that the description of their solution should make up the content of the chapters of the master's thesis.

Methodological foundations of the study. When describing the methodological foundations of the research, the directions, concepts and theories with their authors are indicated, as well as specific provisions that are used in the master's thesis as the basis of empirical research with references to primary sources (e.g. qualitative, quantitative, experimental, ethnographic).

Research methods and techniques. The choice of research methods and techniques should be adequate to the methodological bases accepted in the dissertation. The same sub-item lists the methods and techniques used, known and developed by the master's student, that allow achieving the research goal (e.g. interviews, surveys, testing).

When describing the methods, their full name, author, and purpose of the method are given. It is mandatory to provide a link to the source that contains this

data. Forms of methods, descriptions of scales and keys, as well as the content of little-known methods are provided in the appendix (with links to primary sources).

Methods of statistical data processing. When describing the methods of statistical data processing, specific statistical methods are specified. If the statistical processing was carried out using standard statistical programs, you must provide the name and version of the package. For example, " ... The data was statistically processed using SPSS Statistics v. 16, Statisticav.8" (e.g. means, standard deviations) and inferential statistics (e.g. test statistics, p-values). The purpose of applying specific statistical procedures should be specified. In the case of using non-standard statistical techniques that are not included in the set of software packages, a link to the source and a detailed description of the procedure used are required (e.g. statistical analysis, discourse analysis).

The dissertation **conclusion** should concisely answer the main research question, leaving the reader with a clear understanding of your central argument and emphasizing what your research has contributed. The conclusion refers to the final chapter, where you wrap up your dissertation with a final reflection on what you found. This type of conclusion often also includes recommendations for future research or practice.

References list. Must be issued in accordance with the requirements.

Additional data (including raw numbers, full questionnaires, or interview transcripts) can be included as an **appendix (applications).**

The general requirements for the order of execution, content, design and defense of the master's thesis are reflected in the file attached to the lecture: Instruction for Master’s thesis.

Lecture 10
Citation rules for scientific papers

Lecture plan

1. Scientific citation.
2. Basic rules for quoting and formatting citations.
3. Examples of the design of the list of references.

Basic concepts: citation, plagiarism, reference.

1. A necessary component of any scientific work is a scientific citation.

A **citation** is a statement given in whole or in part from the author's text (scientific, artistic, journalistic, etc. literature or report) with an indication of the author or source.

Scientific work without citation is impossible. The fine line between plagiarism and quoting lies in following the rules. In scientific works, references are given to sources from which materials or individual results are borrowed, or on the ideas and conclusions of which problems, tasks, and issues are developed, the study of which is devoted to the work. Such links make it possible to find

relevant sources, check the accuracy of the citation, and get the necessary information about these sources (its content, language, and volume).

Citation is called:

– borrowing a fragment of the author's text;

– borrowing formulas, statements, illustrations, tables, and other elements;

– incomplete, translated, or paraphrased reproduction of a text fragment;

– analysis of the content of other publications in the text of the work.

The most important rule of citation is to accompany the citation with a reference to a specific source from the list of references. The absence of a link in the quotation or the absence of a quote in the presence of a link is a gross error in the design of the work.

Types of references:

– in-text (information about the source is specified in the text of the document);

– subscript (information about the source is taken out of the text down the page of the document, in the footnote);

– out-of-text (information about the source is placed behind the text of the document or part of it, in the callout).

2. Basic rules for quoting and formatting citations. – Be sure to put quotation marks when rewriting the source text verbatim. The quote opens and closes with quotation marks ("....").

– Authors should be cited only for their works.

– When referring to the author, specify his last name and initials. Initials are placed before the last name, for example, "L. S. Vygotsky" or "Z. Freud."

– Bibliographic references in the text of the article are highlighted in square brackets, indicating the number of the source in the list of references (for example, [2]).

– If the reference is given to a specific fragment of the document text, the reference indicates the serial number of the source and the pages on which the reference object is placed, the information is separated by a comma: [10, p. 81].

– If a reference contains information about multiple links, separate the groups of information with a comma: [1, 3, 14].

– Each citation must have a reference, i.e. a bibliographic description of the source. All sources included in the list of references should be referenced in the text.

All references in the work are made in the same style, according to the accepted *standards.*

3. Examples of the design of the list of references (Approved order of the Higher Attestation Commission of the Republic of Belarus No. 159 of 25.06.2014).

1. Book with one, two or three authors:

Brock, T.D. Biology of microorganisms / T.D. Brock, D.W. Smith, M.T. Madigan. – 4th ed. – London: Prentice, 1984. – 847 p.

2. Collective author:

Fundamental issues in strategy: a research agenda / ed. by R. P. Rumelt [et al.]. − Boston, MA: Harvard Business School Press, 1994. – 636 p.

3. Remote access resources:

Reforming the United Nations for peace and security [Electronic resource]: proc. of a workshop to analyze the rep. of the High-level Panel on Threats, Challenges, a. Change / Yale Center for the Study of Globalization. – New Haven: Yale Center for the Study of Globalization, 2005. – Mode of access: http://www.ycsg.-yale.edu/core/forms/Reforming_un.pdf. – Date of access: 20.02.2014.

4. Journal article:

Steger, D.P. The future of the WTO: the case for institutional reform / D.P. Steger // J. of the Intern. Econ. Law. – 2009. – Vol. 12, iss. 4. – P. 803–833.

Plagiarism is the deliberate appropriation of the authorship of someone else's ideas or inventions and the publication under one's own name of someone else's work, fragments of someone else's works without specifying the source of borrowing.

Thus, when preparing a scientific paper, you must comply with the minimum requirements:

– The facts in the article are presented reliably, there are references to authoritative sources.

– All figures, tables and sources in the list of references are referenced in the text.

– The reference list includes authoritative sources and contains modern works on the topic of the study, each of which should be mentioned in the text of the work.

– The originality of the study is not less than 70–75%.

PRACTICAL AND SEMINARS

Practical 8
Empirical scientific psychological research. Part 1

1. For more effective work, it is recommended to use the content of the lecture.
2. Answer the control questions:
– What are the classifications of scientific methods?
– What determines the effectiveness of scientific research?
– What are the criteria and indicators of psychological research?
3. Practical task:

Solving psychological cases. The lesson provides examples of psychological research. Undergraduates should analyze the descriptions of these studies, what theoretical and empirical methods are used, the advantages and limitations of the methods used, the adequacy and environmental friendliness of their application, etc.

And also indicate what ethical problems can potentially be and how they need to be solved.

Practical 9
Empirical scientific psychological research. Part 2

1. For more effective work, it is recommended to use the content of the lecture.
2. Answer the control questions:
– general characteristics of qualitative and quantitative methods
– types of data and methods of their analysis
3. Practical task:
1. Make a comparative table of quantitative and qualitative research methods

Characteristic	Quantitative	Qualitative
Philosophical foundations		
Associated phase		
Goal of investigation		
Design characteristics		
Sampling		
Data collection		
Mode of analysis		
Validity		

2. Describe the methodology, methods, and techniques of your research.

Practical 10
Ethical issues of psychological research

1. For more effective work, it is recommended to use the content of the lecture.
2. Answer the control questions:

– Why is compliance with ethical standards in conducting psychological research one of the most important criteria for its effectiveness?

3. Practical task:

1. Specify the correct definitions

1. *Confidentiality –*
2. *Ethics –*
3. *Informed consent –*
4. *Research ethics –*

a. are broadly the set of rules, written and unwritten, that governs our expectations of our own and others' behavior.

b. focus on the moral principles that researchers must follow in their respective fields of research.

c. is when participants are able to make an informed judgment about whether to take part.

d. is about respecting the rights and dignity of people and maintaining confidentiality, which is essentially an agreement not to disclose the personal information of participants without their consent.

2. Is this statement true? Informed consent is when participants are able to make an informed judgment about whether to take part.

3. Is this statement true? The APA Ethics Code is the most important ethics code for researchers in psychology.

4. Is this statement true? Plagiarism means using others' words or ideas without proper acknowledgment.

5. Is this statement true? Participants are not required to be informed about the objectives and procedures of the study.

6. Is this statement true? The Nuremberg Code is a document on how to statistically interpret data obtained in psychology.

7. Is this statement true? In publications of research results, plagiarism of other people's works and falsification of works are welcome.

Practical 11
The main forms of presentation of the results of scientific psychological research

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What are the main requirements for the design of a scientific study?

– What are the features of the design of the dissertation?

– What is an abstract?

– What are the features of the design of the abstract?

– What are the structural components of research work?

3. Practical task:

1. Match the sentences:

1. *A report –*

2. *A scientific article –*

3. *A monograph –*

4. *A dissertation (thesis) –*

a. is a document that presents information in an organized format for a specific audience and purpose.

b. reports the results of original research, assesses its contribution to the body of knowledge in a given area, and is published in a peer-reviewed scholarly journal.

c. is a book on a single specialized topic, usually by one author in one volume.

d. is a scientific qualification work, the successful completion of which is one of the requirements for obtaining a scientific or academic (master's) degree.

2. The master's thesis should include:

a. title page; abstract; content; list of abbreviations, symbols and terms (if necessary); introduction; main part; conclusion; list of sources used; appendices (if necessary);

b. title, several chapters, recommendations, tables and figures.

3. The abstract should include:

a. title, your name, department, institution, degree program, and submission date.

b. information on the volume of the master's thesis, the number of illustrations, tables, appendices, used literature; list of keywords; the text of the abstract.

4. Insert the missing word. The list of ..... characterizes the main content of the master's thesis and includes from 5 to 15 words in the nominative case, written separated by commas in a line in capital letters.

5. As a rule, a dissertation in psychology consists of 2-3 chapters:

1.

2.

3.

a. Recommendations for the practical application of the research results.

b. Analytical review of the literature on the research problem.

c. Empirical research of a scientific problem.

6. The content sequentially lists all the titles of the master's thesis:

a. introduction, numbers and titles of sections and subsections, conclusion, list of used literature and appendices (if necessary), indicating the page number on which each title is placed.

b. there is no such sheet in the dissertation.

7. Select the correct words from the suggested list and fill in the blanks: purpose, methodology, object and subject, novelty, significance, recommendations.

The text of the abstract should reflect the … of research, the … of the work, … the research, the results obtained and their …., the degree of implementation or …. for the implementation of research results, the scope, economic efficiency or …. work.

8. Match the sentences

1. The object of research

2. The subject of research

a. is a process or phenomenon that generates a specific problem situation.

b. is the specification of the object of research.

Practical 12
Presentation of the results of scientific psychological research. Part 1

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What are the main requirements for the design of a scientific study?

– What are the features of the design of the dissertation?

– What is an abstract?

– What are the features of the design of the abstract?

3. Practical task:

The master's student must bring an article, materials and theses on the topic of their dissertation research to the class.

At the first stage, the master's student works independently, analyzing publications for compliance with the requirements (in terms of content and design).

At the second stage, undergraduates prepare the title page, the content and the abstract of the master's thesis in accordance with the requirements for registration.

Practical 13
Presentation of the results of scientific psychological research. Part 2

1. For more effective work, it is recommended to use the content of the lecture.

2. Answer the control questions:

– What are the structural components of research work?

– What should be taken into account when presenting a scientific study?

– What documents should be prepared?

– What is the procedure for defending the dissertation? What are the main stages of protection?

3. Practical task:

The lesson is a discussion, the purpose of which is to consolidate the rules of presenting the results of scientific research in various types of scientific texts.

The rules of scientific citation are fixed.

Students make a bibliographic list of their research according to the requirements.

Practical 14
Design of theoretical and empirical psychological research

The master's student must develop the design of their own dissertation research, according to the specified structure and content requirements, and defend it by making a public presentation in an academic group.

Project structure

1. Title page
2. The main part
3. List of references.

Next, the group will discuss the prepared presentations of the master's thesis.

KNOWLEDGE CONTROL SECTION

CREDIT QUESTIONS

1. Methodology as the basis of scientific knowledge.
2. Science as a form of social consciousness, its functions.
3. The structure of scientific research.
4. Levels of scientific research methodology: philosophical, general scientific, concrete scientific and technological.
5. The specifics of research in psychology.
6. Scientific research as a process and result of the development of scientific knowledge, a type of cognitive activity.
7. Empirical and theoretical research.
8. Types of research on the conditions of conducting.
9. The conceptual and categorical apparatus of scientific research.
10. The categorical apparatus as the basis of scientific knowledge.
11. Philosophical, general scientific and proper concepts that reflect the specifics of psychological research.
12. The logical structure of the study.
13. The logic of scientific research as a step-by-step sequence of certain research steps.
14. Selection, formulation and justification of the research topic and problem. The object and subject of the study.
15. The purpose and objectives of the study.
16. Research hypothesis.
17. Scientific novelty of the research.
18. Scientific and practical significance of the research results.
19. Methods of scientific research and design of its results.
20. Theoretical research methods.
21. Interpretation as the transformation of information into knowledge.
22. Analysis and synthesis.
23. Types of analysis as a method of scientific knowledge.
24. Forms of synthesis as a method of scientific research.
25. Idealization, modeling, analogy.
26. Induction and deduction.
27. Comparison.
28. Generalization.
29. Classification of objects on different grounds, depending on the subject and objectives of the study.
30. Empirical research methods.
31. Characteristics of empirical research methods.

32. Observation.
33. Survey methods.
34. Experiment as a research method.
35. Test method.
36. Sociometry.
37. Method of document analysis.
38. Forms of providing research results.
39. General requirements for the provision of research results.
40. Scientific publications.
41. Requirements for the design of abstracts.
42. Article as a form of presentation of research results. Other forms of presentation of research results: report, communication.
43. Scientific discussion.
44. The concept of scientific discussion.
45. Logical structure and rules of scientific discussion.

EXAMINATION PROJECT ON THE DISCIPLINE

The master's student must develop the design of their own dissertation research, according to the specified structure and content requirements, and defend it by making a public presentation in an academic group. When evaluating an open (heuristic) task, the identity (originality) of the created educational product, the study of the studied phenomenon from different sides, the integration of knowledge from different fields, and the personal significance of the results achieved are taken into account.

The project evaluation includes the relevance of the problem under study, the correctness of the research methods used, the involvement of knowledge from various fields, the organization of the group's work, and the practical orientation of the results obtained.

Project structure

1. Title page
2. The main part
3. List of references.

1. Title page

The title page should contain the following information:

– full name of the higher educational institution, faculty and department where the master's thesis was completed;

– last name, first name, patronymic of the master's student;

– title of the dissertation;

– specialty and specialization;

– academic degree, academic title, surname, first name, patronymic of the supervisor;

– the city and the year of graduation.

The title of the dissertation should be short, define the field of research, reflect their purpose and correspond to the content of the dissertation. For the purpose of concretization, the name may contain a clarification. For example, "The structure of the need-motivational sphere of undergraduates (on the example of undergraduates of the Faculty of Philosophy"). The title of the dissertation should (if possible) avoid the use of complicated highly specialized terminology. It is not recommended to start the title of the dissertation with the words: "Study of the process...", " Study of some ways...", " To the question...", etc., which do not adequately reflect the essence of the problem under consideration, there is no sufficiently clear definition of its purpose and results.

2. The main part

The main part consists of:

– relevance of the topic of the dissertation research;

– the object and subject of the study;

– goals and objectives of the study;

– methods and organization of the study (methodological grounds: methods, techniques; stages; sampling; proposed methods of statistical data processing).

Relevance of the topic

The scientific problem of the research is formulated, the degree of its development is indicated, the place of the research on the master's thesis among other similar studies in the same field, the need for research to solve a specific problem (task), the development of specific areas in the relevant industry.

Object and subject of the study

The object of research is that part of the real world that is known, explored and (or) transformed by the author. The subject of the study is the properties, sides, relations and processes of a given reality (within the framework of a given object) that are allocated by the researcher for purposeful study.

Purpose and objectives of the study

The purpose of the research focuses on its final result, the tasks formulate questions that should be answered in order to achieve the research goal. When defining tasks, it should be borne in mind that the description of their solution should form the content of the chapters of the master's thesis. The purpose and objectives of the research define the boundaries of the subject of the research, specifically formulated by the author.

For example: The research topic is "Motivation to change jobs depending on the level of claims", the object is the motivation to change jobs, the subject is the motivation to change jobs at different levels of claims.

In the formulation of goals and objectives, it is not recommended to use the words " research..", "study...", " description...", since they indicate the process of

achieving the goal, and not the goal itself. It is more correct to use the verbs " reveal...", " define...", "set". "detect...", " detect...", " find...", " fix...", "measure". "develop..." etc.

The number of objectives is determined by the logic of the research (maximum 5-6 objectives), 1-2 theoretical objectives are set, the remaining tasks are empirical.

Methods and organization of the study are listed consecutively (no more than 2-3 pages): General concept and methodological foundations of the study; methods and techniques of research; steps of research; the research sample, the statistical treatment.

Methodological foundations of the study

When describing the methodological foundations of the research, the directions, concepts and theories with their authors are indicated, as well as specific provisions that are used in the master's thesis as the basis of empirical research (with references to primary sources).

Research methods and techniques

The choice of research methods and techniques should be adequate to the methodological bases accepted in the dissertation. The same sub-item lists the methods and techniques used, known and developed by the master's student, that allow achieving the research goal. When describing the methods, their full name, author, and purpose of the method are given. It is mandatory to provide a link to the source that contains this data. Forms of methods, descriptions of scales and keys, as well as the content of little-known methods are provided in the appendix (with links to primary sources).

Sample of research

When describing the sample, you should specify its qualitative (socio-psychological parameters of the respondents, the method of construction) and quantitative (volume) characteristics. It is recommended to reflect the distribution of the sample by the most important characteristics in the form of diagrams.

Methods of statistical data processing. When describing the methods of statistical data processing, specific statistical methods are specified. If the statistical processing was carried out using standard statistical methods. The purpose of applying specific statistical procedures should be specified. In the case of using non-standard statistical techniques that are not included in the set of software packages, a link to the source and a detailed description of the procedure used are required.

3. References

Criteria for assessment students' knowledge on the exam. The exam is conducted within the scope of the curriculum.

The assessment is carried out on a 10-point scale in accordance with the criteria for assessing students ' knowledge and competencies developed by the Ministry of Education of the Republic of Belarus.

Criteria for assessing knowledge and competencies on a 10-point scale.

1 point - one, NOT CREDITED:

* Absence of knowledge and competencies within the curriculum or refusal to respond.

2 points – two. NOT CREDITED:

* Fragmentary knowledge within the curriculum of the discipline;

* Knowledge of certain literary sources recommended by the curriculum of the discipline;

* Inability to use the scientific terminology of the discipline;

• The presence of gross stylistic or logical errors in the response;

* Passivity in practical classes.

3 points – three. NOT CREDITED:

* Insufficient knowledge in the curriculum of the discipline;

* Knowledge of some of the main literature recommended by the curriculum of the discipline;

* Use of scientific terminology;

* Presentation of the answer to questions with significant linguistic and logical errors;

* Poor knowledge of the tools of the academic discipline, incompetence in solving standard tasks;

* Inability to navigate the main concepts and directions of the discipline being studied;

* Passivity in practical classes.

4 points – four. CREDITED:

• A sufficient amount of knowledge in the curriculum of the discipline;

* Assimilation of the main literature recommended by the curriculum of the discipline;

* Use of scientific terminology;

* Stylistically and logically correct presentation of the answer to questions, the ability to use it in solving standard problems;

* Knowledge of the instruments of the academic discipline, the ability to use it in solving standard tasks;

* Ability to solve standard tasks under the guidance of a teacher;

* The ability to navigate and evaluate the main concepts and directions of the discipline being studied;

* Work under the guidance of a teacher in practical classes.

5 points – five. CREDITED:

* Sufficient knowledge in the scope of the discipline's curriculum;

* Use of scientific terminology;

* Stylistically competent and logically correct presentation of the answer to questions, the ability to draw conclusions;

* Knowledge of the tools of the discipline, the ability to use it in solving educational and professional tasks;

* The ability to independently apply standard solutions within the curriculum of the discipline.

* Assimilation of the main literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a comparative assessment;

* Independent work in practical classes, individual participation in group discussions.

6 points – six. CREDITED:

* Sufficiently complete and systematized knowledge in the scope of the discipline's curriculum;

* Use of the necessary scientific terminology;

* Stylistically competent and logically correct presentation of the answer to questions, the ability to make informed conclusions;

* Knowledge of the instruments of the academic discipline, the ability to use it in solving educational and professional tasks;

* The ability to independently apply standard solutions within the framework of the training program;

* Assimilation of the main literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a comparative assessment;

* Independent work in practical classes, periodic participation in group discussions.

7 points – seven. CREDITED:

* Systematic, deep and complete knowledge of all sections of the curriculum of the discipline;

* Use of scientific terminology, including in a foreign language;

* Linguistically and logically correct presentation of the answer to the questions;

* Knowledge of the toolkit of the academic discipline, the ability to use it in solving scientific and professional problems;

* Assimilation of the main and additional literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a critical assessment;

* Independent work in practical classes, periodic participation in group discussions.

8 points – eight. CREDITED:

* Systematic, deep and complete knowledge of all the issues raised in the scope of the discipline's curriculum;

* Use of scientific terminology, including in a foreign language;

* Stylistically competent and logically correct presentation of the answer to questions, the ability to make informed conclusions;

* Knowledge of the instruments of the academic discipline, the ability to use it in the formulation and solution of scientific and professional tasks;

* Assimilation of the main and additional literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a critical assessment;

* Active and independent work in practical classes, systematic participation in group discussions.

9 points – nine. CREDITED:

* Systematized, deep and complete knowledge of all the discipline's curriculum;

* Accurate use of scientific terminology, including in a foreign language;

* Stylistically competent and logically correct presentation of the answer to questions, the ability to make informed conclusions;

* Knowledge of theinstruments of the academic discipline, the ability to use it effectively in the formulation and solution of scientific and professional tasks;

* The ability to independently solve complex problems in a non-standard situation within the framework of the training program;

* Complete assimilation of the main and additional literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a critical assessment;

* Active independent work in practical classes, systematic participation in group discussions.

10 points – ten. CREDITED:

* Systematic, deep and complete knowledge of all sections of the curriculum of the discipline, as well as all the main issues that go beyond it;

* Accurate use of scientific terminology, including in a foreign language;

* Stylistically competent and logically correct presentation of the answer to the questions;

* Perfect knowledge of the instruments of the academic discipline, the ability to use them effectively in the formulation and solution of scientific and professional tasks;

* Expressed ability to solve complex problems independently in a non-standard situation;

* Complete and deep assimilation of the main and additional literature recommended by the curriculum of the discipline;

* The ability to navigate the concepts and directions of the studied discipline and give them a critical assessment, use the scientific achievements of other disciplines;

* Active independent work in practical classes, active participation in group discussions.

AUXILIARY SECTION

BASIC AND ADDITIONAL LITERATURE

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Educational publication

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Educational and methodical complex in the academic discipline

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