UNIVERSITATEA DE MEDICINĂ ŞI FARMACIE
„VICTOR BABEȘ” DIN TIMIŞOARA

PREPARATION OF BACHELOR DEGREE

PRACTICAL COURSES NR. 5-7

Prof.univ.dr. Carmen TODEA

Șef.lucr.dr. Ruxandra SAVA-ROȘIANU

Skill Development Workshop on Art of Scientific and Research Writings

Art of Writing

- **Writing is nature's way of letting you know how sloppy your thing is..**

Guindon, *San Francisco Chronicle*

Art of Scientific Writing

- **There is no form of prose more difficult to understand and more tedious to read than the average scientific paper.**

Francis Crick

Content

- Types of scientific writings
- Global view of publications in science and engineering
- What are high impact factor journals?
- Why it is important to publish in high impact factor journals?
- Which manuscripts are published in high impact journals?
- Attributes of a good manuscripts
- From good research to good reporting-Technical details of manuscript writing
- Ethics in scientific writings
- Examples and exercise *(Dr. Atia and Dr. Hina)*

Types of Scientific Writings

- Research Articles or Research Papers
- Review Articles
- Research Reports
- Research Projects for Funding
- Patents
- Dissertation of Thesis

Types of Scientific Writings- *Research Articles*

- Ultimate Product of Intellectual Pursuit
- Report on research findings that are
- Sound (Valid)
- Previously unknown (Novel and original)
- Add new understanding, observation, proofs
- It has required structure and style IMRaD (Introduction, Material, Results and Discussion).

GLOBAL VIEW OF PUBLICATIONS IN SCIENCE

Global View of Publication in Science and Engineering

- Approximately 35,000 journals published regularly
- 22,000 of them are ISI or Scopus abstracted
- Total number of papers published annually exceeds 2.5 million
- Over 50% are never cited by any one

International Research Publications Facts and Figures

- Articles published (1665-2012)= 53 million
- Free and paid abstracts available Scopus, ISI Web of Knowledge (WOK), PubMed Central, and Google Scholar
- PubMed Central holds over 2.2 million articles, has a collection of over 20 million citations
- SciVerse Scopus holds over 43 million records, it includes 18,000 peer-reviewed journals (including 1,800 open access journals), 700 trade publications, and 400 book series.

International Research Publications
Facts and Figures

- *ISI Web of Knowledge* claims to hold over 40 million items and 7387 science and engineering journals and 2257 social science journals.

- Google Scholar has almost to taken over the world biblometry.

Number of Journal Published

(Thomson Reuters-Web of Science –Master Journal List)

Field*	Number of Journals
Arts & Humanities Citation Index	1632
Biochemistry and Biophysics	473
Life Sciences	1408
Engineering, Computing & Technology	1329
Clinical Medicine	1519
Arts & Humanities	1338
Agriculture, Biology & Environmental Sciences	1261
Chemistry Citation Index	545
Biotechnology Citation Index	321
Biological Abstracts	4479

http://science.thomsonreuters.com/mjl/

* These are only selected fields

Number of Journal Published in the Major Fields of Science (Thomson Reuters-Web of Science–Master Journal List)

Science Citation Index® 3786
23,000 academic and science journals (Including Web of Science journal listings)

Field of Science*	Number of SCI Journals
Immunology	93
Geology	17
Mathematics	97
Biochemistry and molecular biology	206
Chemistry-multidiciplianary	90
Organic chemistry	43
Cell biology	135
Biology	48

http://science.thomsonreuters.com/mjl/

* These are only selected fields

Global View of Publications in Science- Hard Facts

- Over 50% of research papers receive no citation
- 90% readers glance through the content list only
- Only 5% open the journal to review through the titles
- Less than 2% scientists read the abstract and introduction
- Less than 1% read rest of the paper!!!!!!!!!!!!!

What are High Impact Factor Journals?

What are High Impact Factor Journals?

- Impact factor of journal is the frequency of its citations.
- High impact factor journals are the ones which have high frequency of citations by others
- It is a superficial, but internationally accepted, measure of quality of journals
- A good high impact journal may publish a paper which have low to zero citations.

What is an Impact Factor of a Journal

- Reflecting the average number of citations of an article in a journal
- Appears in Journal Citation Reports - Science Citation Index
- Journals with high impact factors considered to be more scientifically important and more prestigious.

$$\text{Impact Factor} = \frac{\text{Citations in 2012 to articles published in 2011 and 2010}}{\text{Articles published in 2011 and 2010}}$$

Journal Impact Factor 2009

Journal	Impact Factor
Nature	34.480
Science	29.747
LANCET	30.758
Angewandte-Chemie	11.829
Tetrahedron	3.219
Acta Crys. E	0.453

H-Index or Hirsch Index or Hirsch Number

- It measure both the productivity and impact of the published work of a researcher.

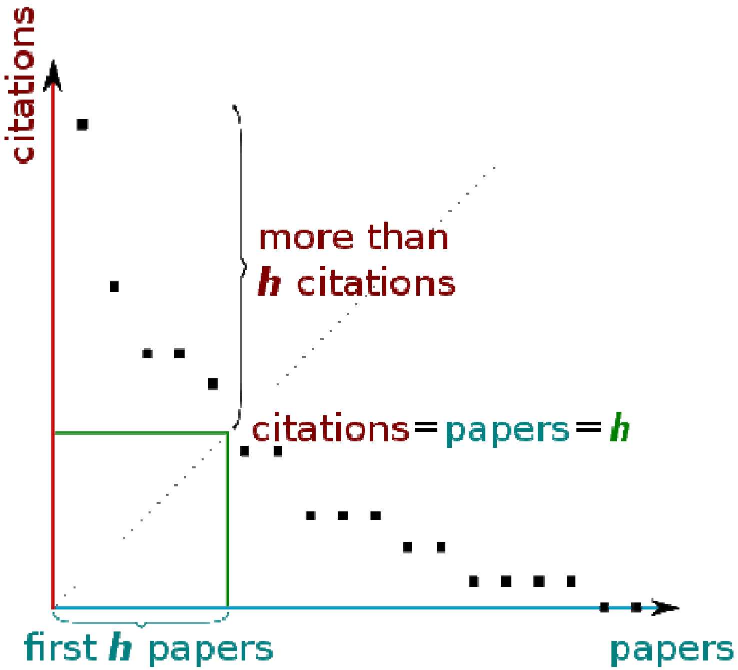
- The index is based on the set of the scientist's most cited papers and the number of citations.

- The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country.

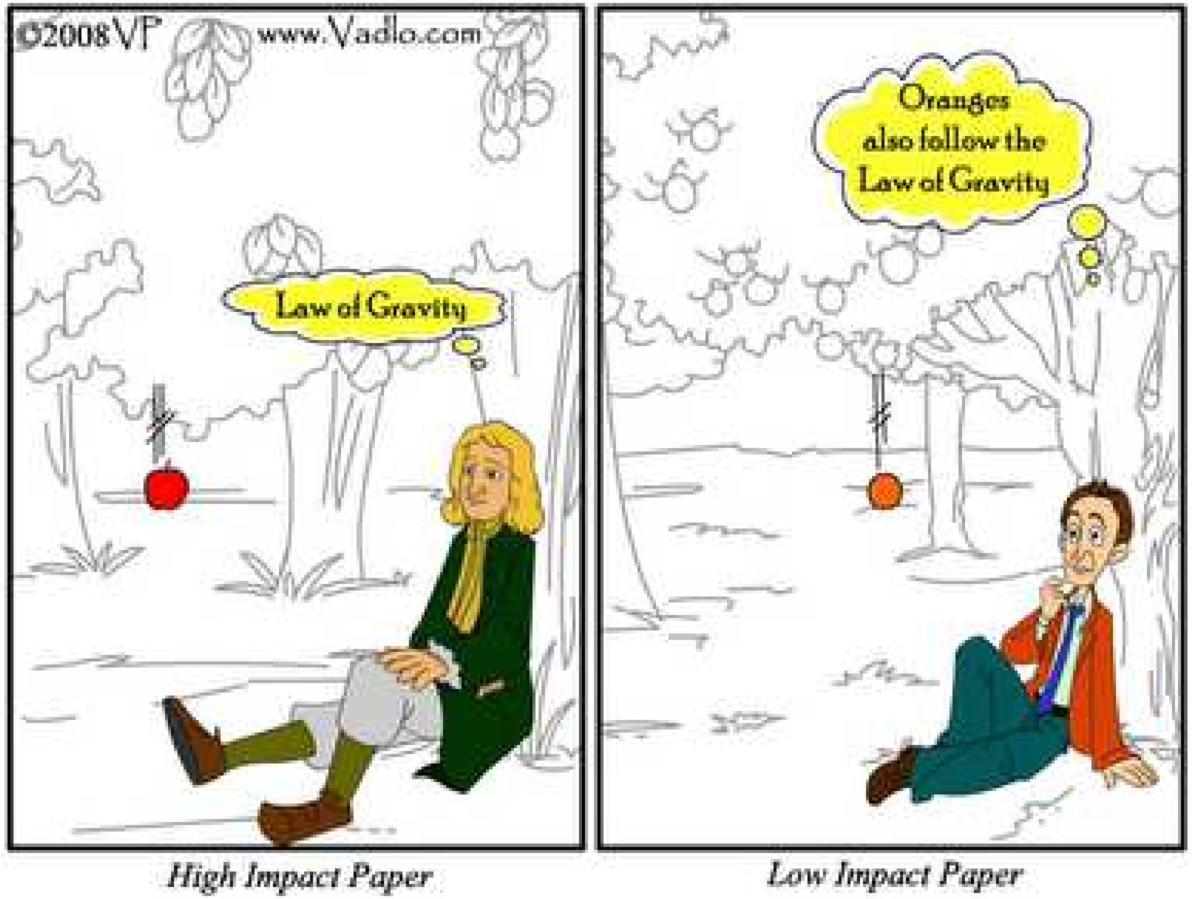
H-index or Hirsch index or Hirsch number

- The h-index is based on a list of publications ranked in descending order by the Times Cited. The value of h is equal to the number of papers (N) in the list that have N or more citations.

http://en.wikipedia.org/wiki/H-index



Publishing in High Impact Journals-It's the idea which matters



E-Journals *Vs* Print Journal

E-Journals *Vs* Print Journal

E-Journals

Merits	Demerits
Easily accessible	Non-availability of full text (Sometime)
Online submission	Subscription only for a fixed duration
Online editing	Poor quality of Portable Document File
Time Savings	No perpetual access
On spot access	Can not read at your leisure
Can download any article with/without payment	Continuity of content is disturbed
	Problems in downloading

Print-Journals

Merits	Demerits
Easily accessible	Increased time spent in searching information
Personified copy	Non-availability of Indexes in some journals
Legibility	Expensive according to number of copies
No dependency on computer/electricity	Require more space
Can read at your leisure	
No need of link/continuity	
Can keep all printed versions to eyesight at a glance	

E-Journals *Vs* Print Journal

According to a survey conducted at H M Patel Centre for Medical Care and Education , India, following are the responses by professional about the usage of e-journal *Vs* Print journals

Category	E-copy	Print copy	Both	No response
Professor	02	13	01	-
Additional professor	02	06	-	01
Associate professor	03	13	-	02
Assistant professor	17	21	-	03
Tutor	05	01	01	03
MO/Resident	21	46	-	10
Total	*56 (28.86%)*	*106 (54.63%)*	*02 (1.03%)*	*19 (9.79%)*

Journal of Health Informatics in Developing Countries, Vol.3 • No.1 • 2009

Why it is Important to Publish in High Impact Factor Journals?

Why it is Important to Publish in High Impact Factor Journals

- *Publish or perish*
- Greater visibility of research findings
- Increase chances of citations
- Greater recognition among peers
- Associated benefits such as promotions, productivity allowances, etc

Which Manuscripts are Published in High Impact Factor Journals

Which Manuscript are Published in High Impact Factor Journals

- Work of established scientists
- Results of general interest
- Novelty of findings
- Concise and well written

Attributes of a Good Manuscript

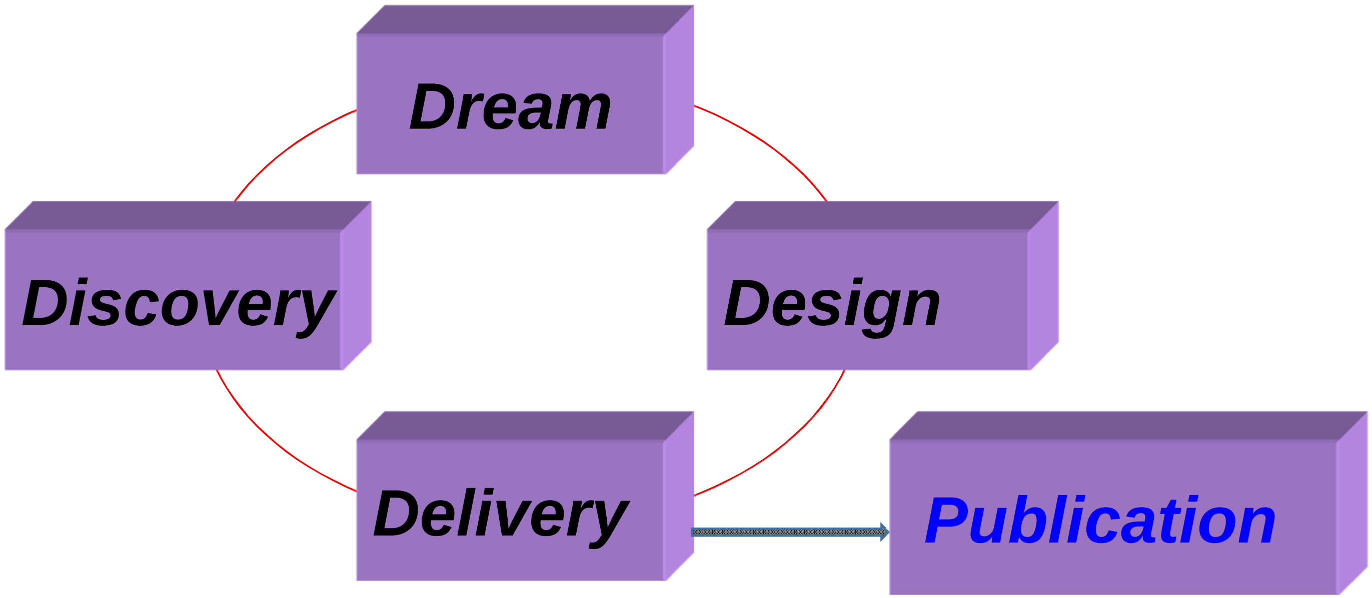
Attributes of a Good Manuscript

- Concise but powerful
- Story like
- To the point
- Free from grammatical and stylistic errors
- Recognizing contributions of others
- Technically correct

From Good Research to Good Writing

- Quality is state of mind
- Good science lead to great findings, and
- Great findings need to be reported in the best possible way to the world

Research Paradigm



"Creativity is fundamental attribute of science, which is driven by curiosity."

Prof. Dr. M. Iqbal Choudhary, Dawn, Sunday December 6, 2009.

Why Publishing Research Articles is Important?

Ideally it is

- to communicate and share the new discoveries in science to improve the quality of life and for providing better healthcare.
- Make contributions to society

More often is

- to be advance in the field
- to get the research funding/grants
- to get the tenure
- to improve the scientific impact of institute/individual
- recognition by peers

When to Publish or Not to Publish?

- Quality of the scientific study
- Invention and innovation
- Depth of the study
- Interest of scientific community and layman
- Audience
- Message in the publication
- Time of publication

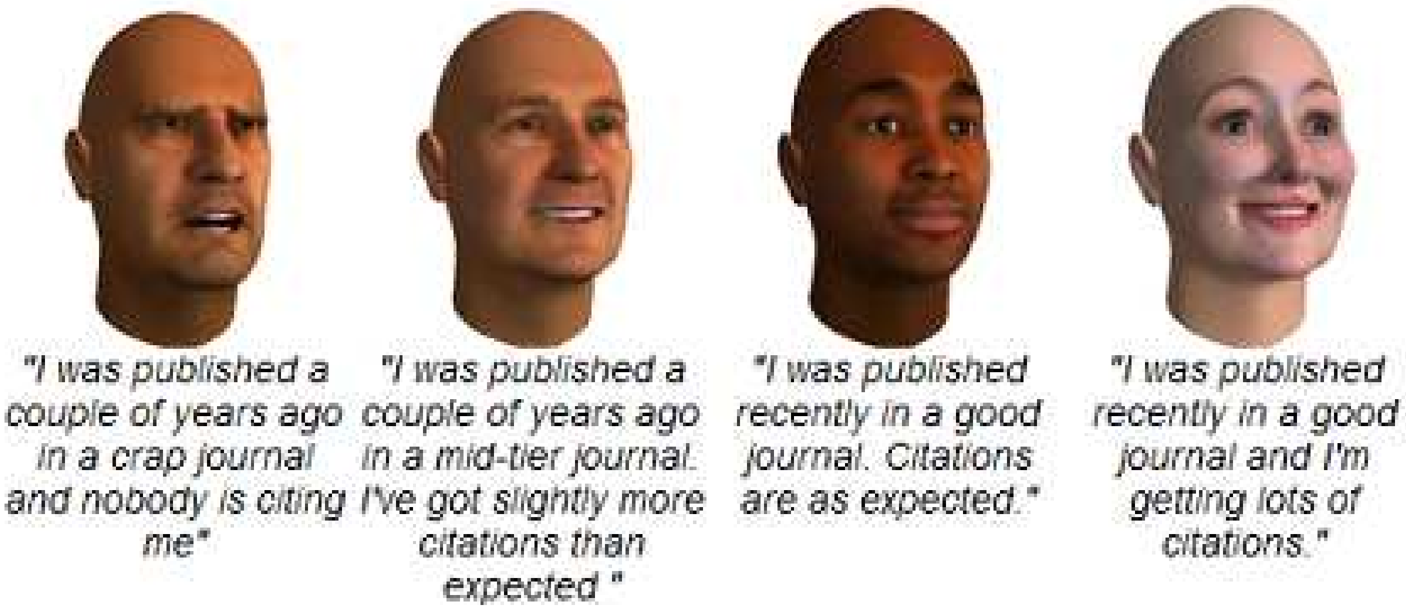
Deciding the Journal for Publishing

- Aim high- Go for first tier journals if you have time and temperament to write a good manuscript.
- Decide the target journal before writing or drafting the article.
- Prefer those journals which publish similar work or the journal articles you are citing for your work.
- If you think that your competitor is ahead of you, go for second tier rapid publication journal, because it is important to first

Points to be Considered before Publishing

- Targeted audience
- Prestige of journal and your own institution
- Access (open access/ subscribed)
  - availability free of charge on the World Wide Web
  - On payment
- Impact factor of the journal
- Probability of acceptance
- Publication time

How Important Citations are???

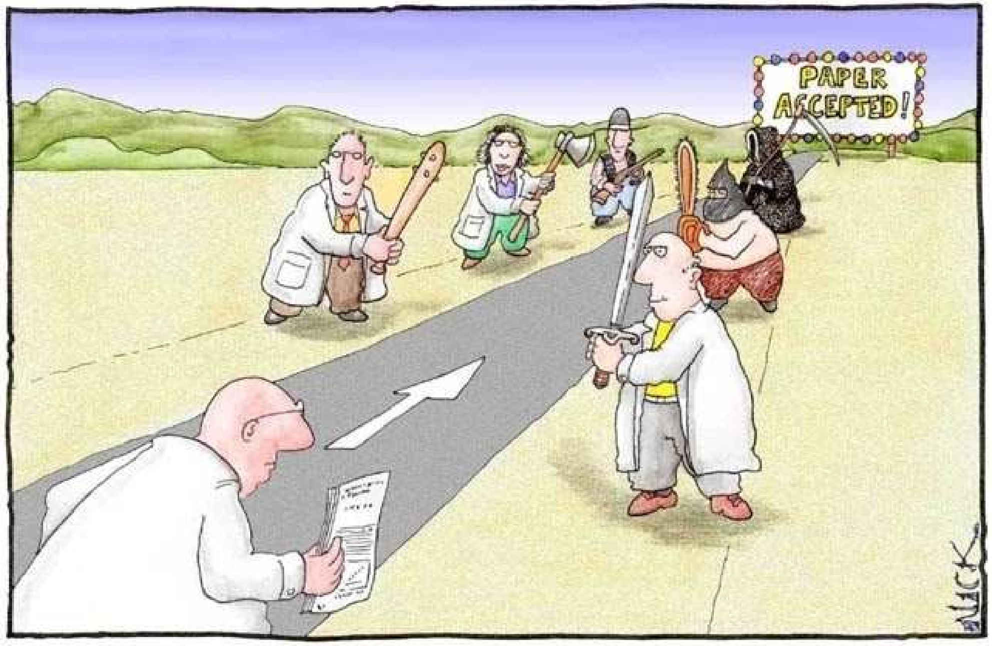


What is Peer Review Process?

•**Exciting the reviewer's mind is far more important then exciting the reader's mind.**

•**It is likely that no one will ever read your paper more thoroughly than the reviewer.**

•**Suggest referees that appreciate your work (political)**



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

www.weirdscience.ca

Kinds of the Research Articles

Letters

Articles

Communications

Research notes

Supplemental articles

Criteria of a Good Research Publication

- Novel idea (out of the box thinking)
- Quality science/research
- Good writing and attractive presentation
- Published in high impact journal

Remember a good article is the one that is read and cited!

ESTABLISHING AND APPLYING DATA COLLECTION METHODS

Once the working sample has been established, the methods are used to collect the information needed for its study. Metaphorically speaking the method is "the lamp that illuminates the path in darkness." Choosing a method also depends on the coordinator's choice with the candidate, as well as existing materials. An important aspect at this stage is that the methods to be used must be well-applied and consistent as the informational input needed for the study. Among the methods most commonly used in medical studies are the questionnaire, interview, observation and experiment.

Questioning as a data collection technique

Questioning is probably the most commonly used method of collecting information in scientific research, which is why the definition of the concept has a great diversity in the specialized literature. Thus by the term of questioning is meant:

• "a method of collecting data by asking the questions or by asking them whether they agree or disagree with the statements that represent different points of view";

• ,, a technique and, correspondingly, an investigative tool consisting of a set of written questions and, possibly, graphic images, logically and psychologically ordered, which, by application by the survey operators or by self-application, determine from the persons answers to be recorded in writing. "

The quality of the studies carried out with the help of the questionnaire depends first of all on the quality of its questions. In the elaboration of the questionnaire it is proceeded as follows: first the specialist defines the topic of the investigation to be carried out, after which he will identify the aspects arising from this topic and will determine the place of each one within the investigated field. Depending on the aspects followed, the specialist asks clear and precise questions, and then the questions asked will be ordered in a logical order.

The format of the questionnaire

The format of the questionnaire applied by the operator most often follows an internal logic established by the researcher. There are - generally speaking - questionnaires that start with simple questions whose complexity increases as they progress (funnel type questionnaires), others that start with neutral questions advancing to personal questions or non-specific questions going to very specific ones . Obviously, depending on the internal logic of the study and depending on the particular objectives, questionnaires of "turned funnel" type can be used (starting with complex questions to simple questions). In determining the sequence of questions, it is necessary to take into account a number of aspects that favor communication and stimulate cooperation on the subject. For example, at the beginning of the questionnaire it is recommended to use one or more "easy" questions, which are generally answered with pleasure, in order to train the topic in dialogue.

The order in which the questions in a questionnaire are of particular importance, so the steps in their application are:

1. Introductory, contact questions, "break the ice" - are those that allow "introduction" of the person questioned in the subject of the study. These questions should not be too difficult or too specific. The purpose is to "break the ice" and to trust the respondent. Obviously, the extremely general and banal questions that can put the questionnaire operator in an unfavorable light must be avoided. It is generally accepted that the first question must be closed with slight yes / no variants. Ex. We live in a rushed world. Do you belong to those people who have too little time?

2. Passing questions - they aim to mark in the structure of the questionnaire a new group of questions related to another problem. They have a preparatory role. They have formulations like: "Please focus now on the topic ...", "Moving on to the problem ...", I will now ask you some questions about ... "

3. Filter questions - these questions stop the passage of categories of subjects to successive questions, representing a quality control of the answers. The filter questions have the most common answer variants of type Yes / No followed by the specification of the action to be taken by the respondent (For variant Yes it goes on). Ex: Have you been to a routine checkup with a doctor this year? Yes No

4. Bifurcation questions - these are similar to the filter only because it does not block the access of any person or category of respondents, but redirects them to different sections of the instrument (for the variant Yes goes to the next question, for the variant Does not go directly to the question X).

5. “why” questions - they have the function of provoking explanations in relation to the different opinions expressed by the respondents. Usually there are either many preset answer variants, or they are open-ended questions with free answers. Although unpublished in the questionnaire, these types of questions are often inaccurate. Ex. Why did you go to the doctor today? (examples of answers: "for routine control", "because I got sick", etc.).

6. Control questions - do not bring new information, but check the fidelity, consistency and consistency of the respondents' opinions. Ex.1 Over 50 years, tobacco consumption among adolescents will be: a. Much higher b. Smaller. c. Greater. d. Much smaller. e. As today f. I do not know. Ex.2 Do you think that over 50 years the consumption of tobacco among adolescents will decrease: a. Yes b. No c. I do not know

7. Classification questions (identification) - serve to analyze the answers in the questionnaire. There are questions related to: sex, age, ethnicity, religion, level of education, income level, marital status, professional situation, etc. They are introduced according to the objectives and hypotheses to be tested through the respective study. These questions usually complete a questionnaire. It is usually recommended that the questions used in a questionnaire be as varied as possible (not just closed questions throughout the questionnaire). The place a question has in a questionnaire or its placement in a certain sequence of questions is able to dramatically change the quantity and quality of the answers.

- **Formularea întrebărilor**

- Chestionarul trebuie să permită în final “decodificarea“ răspunsurilor culese de la subiecţii incluşi în eşantionul de lucru, analiza lor statistică sau/ şi calitativă. Deaceea sunt necesare precauţii, inclusiv cele legate de caracterele literelor folosite, de aşezarea întrebărilor în pagină, de ordinea lor etc.

- Cea mai mare grijă trebuie manifestată însă la construcţia întrebărilor. Există o serie de reguli generale şi specifice după care trebuie construite şi formulate întrebările într-un chestionar: Din întrebare să nu fie omise formulele de politeţe: “vă rugăm…” “dvs.” - Întrebările să fie personalizate (“Care este părerea dumneavoastră ...? “; “După opinia dumneavoastră … “). Operatorul de chestionar poate folosi adecvat, cu “măiestrie“, întrebări directe şi indirecte, vizând informarea directă dar şi răspunsuri indirecte legate de temă (de exemplu, “frecventarea barurilor“ este un indicator adecvat pentru estimarea etapei în care se află un consumator de alcool, dar întrebările indirecte vor căuta să identifice şi alte caracteristici ale acestor persoane, scoţând la iveală explicaţii genetice, psihologice, încercări de rezistenţă la alcool, “mecanismele de apărare“, “inhibiţii“ etc.). –

- Întrebările trebuie să fie formulate într-o manieră clară, simplă, fără înflorituri stilistice, respectând regulile gramaticale şi topica frazei sau a propoziţiei. Pe baza studiilor efectuate pe populaţii vorbitoare de limba engleza s-a ajuns la concluzia că o întrebare “bună” este cea care nu are mai mult de 20 de cuvinte. Dar o astfel de cerere de simplitate nu trebuie să influenţeze asupra înţelegerii şi receptării sensului propriu al întrebării.

- Să nu se pună două întrebări odată. Interpretarea răspunsurilor la o întrebare nu este posibilă decât dacă întrebarea este unidimensională.

- • Do not ask a biased or oriented question that suggests an answer in one direction rather than another. For example: "Do not think that ...", Do not find that ... "," Should not ... ".

- • Questions should not shock with imperative terms, rarely used words, barbarism, words with more meanings, etc.

- • The questions should be neutral, not suggest the answer ("Do you also agree with X, how is that ...?");

- • The question should not allow the assumption of past, present or future behavior:

- • "Since when do you plan to reduce your tobacco consumption?"

- • Questions are not used where the words are associated with a meaning expected by the questioner ("Is it not appropriate to use the beat in the education of children?").

- • The “trap” questions are indicated (to verify the attention, interest, sincerity of the respondent).Se recomandă apoi să nu fie folosite negaţiile şi sunt complet He had forbidden double denials. The questions should not suffer from suggestibility or "serve" the ready-made answer.

- • The introduction of emotionally or value-laden words that risk creating prejudices to the subjects should be avoided.
- • Avoid asking vague, vague, ambiguous questions. For example: "How long have you lived here?", Instead of "How long have you lived in this building, neighborhood, city?". It is always necessary to give a frame of reference to the subjects if one wants to limit the inappropriate interpretations.
- • Extreme words should not be questioned. Words like "everything", "nobody", "none", "always", "never", because they have a restrictive meaning.
- • The questions should not be repetitive, patterned, because they create the sensation of routine, diminish attention, lose the depth of judgment. There are formulas that express the same thing, but in different terms.
- • The initiator of a questionnaire should take into account when formulating questions to avoid the prestigious reaction and to protect the self-esteem of individuals. The social stereotypes, the image considered socially accepted, the values appreciated as desirable, the desire to present themselves in a favorable light are elements that we must pay attention to. Often, indirect questions are used to protect one's self-esteem or euphemisms or terms with a lower emotional load are used..

• At the same time, the one who draws up a questionnaire should not overestimate the memory of the persons questioned. "How many packs of cigarettes do you buy in a year?" it is a question that not only requires a serious memory effort and asks the person concerned to perform true calculations and approximations, but it has high chances of not getting an answer or the answer is not a real one.

• The degree of abstraction and the content in terms of specialty, neologisms, regionalisms, slang terms must be adapted to the category of public or to the persons to be questioned.

Taking into account all these rules, it is preferable that, before proceeding to the large-scale administration of the questionnaire, a short pretext of the questionnaire should be carried out in real conditions, to verify the adequacy of the questions. The pretesting of a questionnaire can bring into question the accessibility of the language, the terminology used. The subjects used in the pretest can be interrogated on the meaning of some terms included in the questionnaire, thus signaling the ambiguity of some expressions, but also their reception by the subjects. Adequacy of terminology at the level of culture of the researched population is always required. Some questions from the questionnaire - following the pre-test - will have to be reformulated, others duplicated or included in another context. The pretesting aims to highlight and some aspects related to the actual application of the questionnaires: their form, the introductory formula, the time required to apply etc. A particularly important element highlighted by the pre-test phase refers to the sensitivity of the questionnaire, ie the ability to obtain different answers in intensity and direction to the same stimulus-question. Also, the pretesting can provide valuable information regarding the image formed by the respondent regarding the research instrument, the problematic, and in general, to the research itself. This information is collected following discussions with the subjects on which the claim was made, providing answers regarding: what embarrassed them, interested them, what they have to criticize, in satisfaction, if they find the questionnaire too long or too difficult, which are

Suggestions on adding or removing questions from the questionnaire, whether to clarify the instructions or to change the way of presentation etc. Therefore, there are a number of items that must be followed by the pre-test to improve the questionnaire:

1. If the questions are understood by the subject;

2. If the subjects give more answers to the same question;

3. If there are questions that frequently involve non-answers;

4. If filter question submissions are effective, do not confuse operators (or subjects in case of self-administration);

5. If the list of response modalities is relevant and exclusive (the "other" modality does not collect too many answers);

6. If the questions produce sufficient variations of the answers (unanimity on a single answer);

7. If there are no negative effects related to the order and number of questions;

8. If the passages, the links between the sets of questions suit the subject, etc. The pretesting is performed on some persons who will not enter the calculated sample later, but which have the same characteristics as those of the persons making up the target population of the investigation. The number of pretested persons is very small compared to the target population and the sample size. For a sample of about 1000 people, 10-20 people are sufficient for pre-registration.

Writing the questionnaire

At the drafting stage of the questionnaire, it is important to take into account certain aspects regarding the manner of drafting the questionnaire:

1) The book format - the smaller formats (A5 or A6) are preferable to the large ones (A4, A3); the book form prevents the sheets from being lost and easily browsed by the respondent.

2) Numbering and underlining - the pages of the questionnaire are numbered, and the filtering instructions must be underlined so as to "jump in the eye".

3) Spacing - enough space is left for answers and enough space between questions; the whole text is spaced to give a relaxing impression.

4) Fonts - words of special importance are written in capital letters, underlined, thickened (Bold) or written with another body of letters.

5) Writing - the answers to the closed questions are arranged vertically, some below each other (they take up more space, but the free space makes the questionnaire seem easier).

It is welcome that at this stage also take into account the size of the questionnaire, which is assessed through the number of questions it contains. This is extremely important, because it is very dependent on the number of those who will accept (or refuse) to answer. On the other hand, the size of the questionnaire will influence the degree of fatigue of those who formulate the answers, this being directly proportional to the number of questions they have to answer. Third, the size of the questionnaire will influence the accuracy of the answers. If the number of questions is too high, at one point the interviewee will respond to the accident, only to get rid of such an obligation. Not infrequently, adding an additional question may compromise the answers to all other questions that a questionnaire contains. In relation to this matter the following two aspects are neglected:

1. more important than the number of questions are the duration (the questionnaire applied "standing", on the street can not exceed 5-10 minutes, and the one at home is recommended not to exceed 45 minutes) and the effort required to give the answers, a large number of simple questions being preferred to a small number of questions to which the answers are very difficult to formulate;

2. the effort to answer and the refusals depend on the motivation to answer which can be printed to the interviewees: if the survey in question aims to better serve or satisfy the needs of the interviewees, they will be more easily engaged to give answers than in the case of an investigation that does not directly concern their own interests.

In general, however, it is not recommended to use too large questionnaires, even if the questions they contain are simple, as they generate a natural rejection reaction from potential respondents.

Ways of applying the questionnaire

The main ways of applying the questionnaire are:

Self-administration - involves recording the answers by the subjects themselves under investigation. The subjects formulate and record in the same stamps.

By self-administration the subjects can express themselves more completely: by what they answer the question, but also by the way they do it. Self-administration eliminates one of the factors that influence the answer: the personality of the person applying the form.

In the absence of a foreign person - the operator - it is likely that individuals will be more willing to answer “very personal” questions, they may elaborate more “thoughtful” answers, etc. In the case of self-administration the form must have introductory text, explanations and explanations sufficient. The disadvantages of self-administration are the risk of not understanding the questions and the impossibility of obtaining additional information, as well as the possibility of administering the questionnaire only from a certain level of culture and age. The advantage, however, is that self-administration increases the degree of security of answer development. A special feature is the self-administration of questionnaires on paper and pencil support or the written questionnaire, which has the following advantages: the large number of those who can answer at the same time, the diminishing of the interview effect, the disappearance of the operator's influence on the results, the higher level of concentration on the answers and ensuring anonymity.

Indirect administration - questionnaires are administered by the survey operators and are the most frequently used modality in a scientific study. The use of survey operators also has its advantages:

• raises the cost of the investigation,

• ensures the representativeness of the exemption,

• can clarify the meaning of the questions,

• it allows to answer the questionnaire also the people with low education level,

• always accompanies the application of the questionnaire with the recording of observation data regarding the conditions of the environment in which the questions were answered,

• spontaneous reactions of the subject.

Also when the operator records the answers, there is the possibility to capture both the verbal and nonverbal behavior of the interviewee and thus saves time. In the case of this method of administration the questionnaire operator must comply with certain rules:

1. To gain the confidence of the subjects;

2. Give explanations in a clear and concise form;

3. Write down the answers and the possible reactions observed in the subject;

4. Not to influence and in any way orientate the options of the subjects.

By indirectly administering the questionnaires, an interpersonal communication of a special type of communication is made.

The specificity of this communication consists in the fact that they are placed in the situation of communicating two absolutely foreign persons, who, alternatively, have the role of transmitter and receiver. Here comes the question: What causes absolutely unknown people to answer sometimes very intimate questions to enter into such unusual communication? Probably, first of all, politeness and curiosity, the desire to contribute to the improvement of social life. However, this requires the questionnaire to be focused on a current social problem and to be politely in turn. But such motivation is not enough.

The communication of the subject-operator of the questionnaire by itself must motivate the subject to answer. However, making contact, approaching people to communicate is a problem. If, in order to get in touch, it would start like this: "Would you now have time to answer a few questions?", Surely many subjects would answer: "No". It is much better to try the formula: "If it were possible for you to help us with this research project, then I would be happy now or on another occasion to ask you some questions." Without a doubt that the way to get in touch with absolutely foreign people to ask for their opinion varies from culture to culture, always establishing contact to communicate remains a problem. The communication between the operator and the one who answers the questionnaire is “unnatural” and because, selectively, the message is recorded in writing: only the answers of the subject are recorded. This can disturb the subject, make it suspicious. It is advisable for survey operators to tell the subject: "I hope it is good to make some notes. I could forget something, I want to remember correctly ”; or "I see so many people in one day, you also know. And I could mess with what they said to each other"; or "I make notes so that I can refresh my thoughts later" etc.

Collective self-administration - combines the advantages of self-administered questionnaires with the advantages of those administered by the questionnaire operators. The advantages of this method are:

• the information is collected quickly,

• the cost is low,

• the non-answers are reduced and the subjects can be clarified on how to complete the forms.

Collective self-administered questionnaires are used in school communities, etc. where the subjects are gathered in larger rooms, with the possibility of writing (tables, chairs). The forms are distributed directly to the subjects convened in an appropriate room at the same time and are completed at the same time by all the subjects.

The correctness of the information collected with the help of the questionnaire is conditioned by the way in which the future respondents are approached, by the confidence that the operator who administers the questionnaire and by his communication skills inspires.

It has been scientifically found that the surveyed subjects will react negatively if the operator person does not inspire confidence or if he does not know how to address them. Thus it is advisable that a good questionnaire operator be:

• intelligent, healthy, extroverted person and without prejudices;

• pleasant, mature, objective and conscientious person;

• person interested in human problems, able to live intensely the feelings of others (empathy);

• a polite and trustworthy person, etc.

As the subjects included in the questionnaires, the operators have their own social status, they belong to a certain socio-professional category. Volunteer, and most often involuntary, they express their social position through the way they speak, through clothing, behavior. The subject questioned perceives the social status of the operator and adjusts his verbal behavior (the answers) in relation to what he thinks the survey operator is waiting for or should know, as a representative of his social group, from him. It was established that the respondent's perception of a “social distance” from the survey operator strongly influences the responses. Also the general allegiance, the way of being and moving the questionnaire operator, the gesture, the gaze acts on the questioned one. It is very likely that an antagonistic feeling towards the questionnaire operator will increase the number of "I don't know" answers. On the contrary, a feeling of inferiority, in any respect, will diminish the frequency of the answers "I don't know", the subject being tempted to make assumptions where the information is lacking. In the same way, the paralinguistics of the operator influence on the questioned one, so it is advisable that through his mimicry the operator expresses interest in the answers of the subject, his gaze is alive and optimistic.

Training of survey operators

The administration of questionnaires is technical and art at the same time.

The training of the questionnaire operators as professionals and the careful instruction before each investigation are required. Thus, they must undergo a complete training under the guidance of the research coordinators. At the beginning, the researcher distributes the following documents to each operator:

• A summary of the research project;

• A copy of the questionnaire;

• instruction sheet (a precise list of instructions);

• file for identifying the persons included in the sample;

• file for the nominal listing of subjects;

TRAINING SHEET

1. General aspects

• each operator must have on his / her own personal identity document;

• it is necessary for the interview operator to present his / her capacity as a collaborator of an institution and to ensure the subject of the anonymous character of the questionnaire (the operator presents and reads the introductory part of the questionnaire);

• the operator will have a decent outfit and a civilized address, regardless of the person with whom the interview is conducted;

• it will be ensured that the questioning time is an appropriate one (it is possible to use a prior appointment or a preventive telephone)

Sampling issues.

• the operator will receive from the coordinator: the addresses of the households / institutions where the survey is to be conducted, - from each household / institution,

• the operator will choose the person who corresponds to the identification data received from the coordinator, - if no person corresponding to the identification data will be found in the household / institution, go to the following address; - if no one is found at one of the indicated institutions / addresses, the operator will record and return (at least 2 times, if applicable); - if the interviewee refuses to answer, it is recorded in the operator's file and go to the next household / institution; - the situation in which the person accepts the interview is not considered, but, for objective reasons, does not have time for the interview at that time. In such situations, the operator will agree on when the interview may take place. It will be returned to the address and to the respective person according to the agreement; - each operator will receive a number of backup addresses that will be used in case of refusals or inconsistency with the identification data;

Aspects of completing the questionnaire - before starting the questionnaire, each operator must read the questionnaire several times to avoid possible difficulties during the application, - to check if the subject can answer the questions in the questionnaire, the first three questions in the questionnaire will be addressed, but without completing the answers directly in it. If the person corresponds, the answers will be completed in the questionnaire and the interview can continue. If the person does not correspond, the operator will move to the next address, recording the situation on the record;

In case of quota sampling:

1. the questionnaires will be applied only to the persons corresponding to the selection grid received from the coordinator;

2. only one questionnaire will be completed within a household / institution, even if there are several persons corresponding to the selection grid, - the questionnaires will be completed by the interview operator or the interviewer;

3. Approaching the subject: situations that the operator may face.

In applying the questionnaires, the operator may face, in relation to the subject, a series of situations that make it difficult or even impossible to collect correct data. These situations are prevented by a proper notice, but there is the possibility that the subject does not take this into account.

a) The situation when the subject "does not take seriously" the research, is ironic, skeptical or whining. Possible solutions: convincing the subject, bringing it to a better attitude - if it is not possible, it is abandoned and replaced with another subject;

b) The situation in which the subject feels manipulated, used, object of the research. Possible solutions: Creating the impression that the subject is more important, under the human dimension, than the research itself and the manifestation of maximum flexibility in the reports with the subject.

c) The situation in which the subject confuses the questioning with the psychotherapy or the friendly discussion. (considers that the questionnaire offers the possibility of "downloading") Possible solutions: "refocusing" the subject.

d) The situation in which the subject requests additional information during the questioning that would help him in elaborating the answers / from the operator, from other members of the family / school or work colleagues, etc.). Possible solutions: The operator's refusal to provide additional data, as well as the delicate impediment of sharing impressions with the family.

e) The situation in which the subject confuses the questioning with the police investigation (we find: fear, precautions, questions long before answering - especially covering the destination of the data provided). Possible solutions: clarifying the position of the operator and the purpose of the questioning.

f) The situation in which the subject requests a payment for the answers to the questionnaire. Possible solutions: convince the subject to cooperate without payment, and in case of refusal and replacement with another subject.