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Ethics Rules in Scientific Research: Controlling Confounding Variables with CHAT and Plagiarism

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Abstract

It is important to follow ethical rules. There is a need to raise awareness about scientific ethics in order to prevent ethical violations in scientific articles.

The organizations named Committee on Publication Ethics (COPE), Council of Science Editors (CSE), World Association of Medical Editors (WAME) and International Committee of Medical Journal Editors (ICMJE) have prepared recommendations and guidelines for ethic rules. These guidelines should be taken into account.

CHAT is generally more successful at controlling confounding variables in ethical considerations. As it's known that Confounding is defined as a possible source of bias in studies in which an unmeasured third variable. Originality is entirely a new thinking and a new style. Inventors, however, inventors transform pre-existing material into a new shape with existing materials.

Originality is entirely a new thinking and a new style. Inventors, however, inventors transform pre-existing material into a new shape with existing materials. Plagiarism is considered a " lack of honesty " in academia. If the approach style and materials of another study are to be mentioned, and if it is to be interpreted, it must be cited as a reference. Referencing is the best example of teamwork with people you do not know. Sharing the same thoughts and solving problems together constitutes the essence of academic work. The article provides a summary of the scientific work you have dealt with for many years. This kind of effort should not be wasted because of some issues such as spelling rules.

Key words: Ethical rules, Plagiarism, CHAT, Scientific ethic

Introduction

During the past several decades, methods of data collection, organization, and analysis have become more sophisticated and penetrating. Among the fundamental tenets of ethical social scientific research is the notion of do no harm. This quite literally refers to avoiding physical and emotional (or psychological) harm (1).

It is known that in Nazi times, doctors carried out procedures on a large number of people who violated human rights, called medical research. Some of

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these processes are known: there are cases of terrible torture and dismemberment. The situation was similar during World War II. In this process, scientists, in the name of science, doctors used humans as subjects. They exposed them to freezing temperatures, live viruses, poisons, malaria, and various untested drugs and experimental procedures under the name of research. (Berger, 1990; Burns & Grove, 2000; Hagan, 2006; Trochim, 2001) (1-4).

What happened during this war led to the creation of a new law. This law was developed under the name of the Nuremberg Law (1949). The **Nuremberg principles** are a set of guidelines for determining what constitutes a war crime. This code provided guidelines for research on humans, most notably the principles that the individual must voluntarily consent to participate in a research study (5). These codes of ethics formed the basis of the Declaration of Helsinki, adopted by the World Health Organization in 1964 and revised in 1975 (Levine, 1986). It also formed the basis of the "Ethical Guidelines for Clinical Research" adopted by the American Medical Association in 1966 (Bower & de Gasparis, 1978). (6,7).

It is seen that the development of the "Declaration of Helsinki" and "Ethical Guidelines for Clinical Trials" is a process that clearly describes how difficult conditions were created.

Whatever we write, it is important to follow ethical rules. There is a need to raise awareness about scientific ethics in order to prevent ethical violations in scientific articles.

The organizations named Committee on Publication Ethics (COPE), Council of Science Editors (CSE), World Association of Medical Editors (WAME) and International Committee of Medical Journal Editors (ICMJE) have prepared recommendations and guidelines for ethic rules. These guidelines should be taken into account.

Particular attention should be paid to the following main headings (8).

• Never duplicate work, sentences (Full or partial text).

• Always write reference for parts of manuscript picked from previously published articles.

• Avoid salami publication. (Publishing one study to several small articles).

• Never plagiarise (It is unethical to use of ideas, words, work of others without giving due credit).

Plagiarism is attempting to use ideas, words, or work of other person without giving due credit. It is extremely unethical not to mention the name of another person from whom the idea or work has been used.

Five types of plagiarism are as follows:

- Copy paste
- Word switch
- Style
- Metaphor

Responsibilities of the Researcher with Participants

The researcher has important responsibilities on the participants in the research. These responsibilities continue from the determination of the participants until the end of the research.

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The responsibilities of the researcher towards the participants and other researchers can be listed as follows (9):

1. Informed consent is the primary responsibility of the researcher. A standard procedure in professional ethics rules is 'informed consent'. It is necessary to ask the participants for approval. If the participants are children, informed consent of their parents should be obtained.

2. The researcher should explain all risks associated with the research to the participants. It should highlight all the negative and positive aspects of the research throughout the consent process. The purpose, objectives and nature of the Research, duration of the study, sponsors and other important information should be disclosed to participants.

3. The information gap between researcher and participants should be taken into account.

4. The privacy, anonymity and confidentiality of participants and data must be duly taken into account. Research projects need to carefully address the issues of anonymity, confidentiality and 'informed consent', as professional guidelines and some form of cultural consensus are still being negotiated.

5. Participants should be given the option to refuse data collection devices such as video cameras, audio recorders etc.

6. To make them appropriate and easy to understand, questionnaires and other rating scales should be designed in the native language of the participants.

7. The safety of the participants is the most important issue. They should not be exposed to greater risks than they do in their normal lifestyles.

8. In this case, it is the researcher's responsibility to protect the participants from the risks arising from their research.

9. Researcher should protect and promote the rights and interests of the participants.

10. The researcher should pay attention to his own safety.

11. Participants should consider cultural, religious, economic, psychological, spiritual, physiological, biological, political, social and other issues.

12. Researchers are expected to take into account the ethical results of their research.

13. To maintain ethical standards in the research process, the researcher must accept and respect the principles of honesty, impartiality and openness.

Different paradigms or perspectives on the world serve as the starting point and framework for research. Two of these have been called positivist and constructive paradigms. The role of the researcher and the challenges he faces depend on which of these paradigms the research is done.

In the positivist tradition, researchers focus on capturing what is "out there" in the world and representing it objectively.

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In the constructivist tradition, researchers interpret data and build their beliefs within a social, historical, and cultural context. It represents a third paradigm of research based on the cultural historical theory of activity (CHAT).

The aim of the researcher in this paradigm is to understand the actions of the participants and also to develop the practice with research participants while the research is being conducted (10).

Caring, fairness, clarity, and truth appear to be important values that support relationship and inquiry when working with people, as in the CHAT paradigm, rather than imposing action. It is necessary to know that honesty, sensitivity, reciprocity, trust and willingness to share competence are ethical codes that can guide the research in the CHAT paradigm (11). The CHAT paradigm argues that learning is a process of constant interaction with the environment and others.

Knowledge is constructed by individual learners, building on existing historical experiences, within the learners' context. Technology is a mechanism to actively engage learners in the learning process, the use of technology is influenced by the rules of and interactions with the community, and it is a tool that mediates learning activities with which to construct individual knowledge. Thus, the CHAT paradigm assumes that outcomes (knowledge) are constructed by interaction within an activity among users, technology, and environmental factors all within a context.

CHAT assessment research therefore focuses on understanding the interaction process of the activity within the naturalist environment. Thus this research provides a more holistic Subject Object Community Tools Rules/ Norms Division of labor Goals Social Cultural Historical Factors 494 description of the knowledge construction activities (12).

Let's define the CHAT, which researchers have emphasized so much, more closely.

What is CHAT?

Known as the cultural-historical theory of activity (CHAT), it is defined as a theoretical framework that helps to understand and analyze the relationship between the human mind (what people think and feel) and activity (what people do). It has its origins in L. S. Vygotsky and Aleksei N. Leontiev, founders of the Russian psychology cultural-history school. Especially since the 1990s, CHAT has enjoyed growing attention among academics around the world. Elsewhere, CHAT has been described as "an interdisciplinary framework for studying how people deliberately transform natural and social reality, including themselves, as a culturally and historically established, materially and socially mediated process" (13).

The basic ideas are:
1) People act collectively, learn by doing and communicate in and through their actions;

2) People make, use and adapt all kinds of tools to learn and communicate; and

3) Community is at the center of the process of creating and interpreting meaning and

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therefore all learning, communication and action forms.

The term CHAT was coined by Michael Cole and popularized by Yrjö Engeström to support the unity of what became the various currents that returned to Vygotsky's work in the 1990s. Traditional cognitive research approaches to technology integration research do provide valuable information, but generally lack the robustness to fully understand the dynamics of this activity.

Conducting such research using a CHAT strategy helped to reveal technology integration activity's content, structure, organization and fundamental characteristics as they exist within the training and classroom context. Traditional cognitive research approaches to technology integration research do provide valuable information, but generally lack the robustness to fully understand the dynamics of this activity. Conducting such research using a CHAT strategy helped to reveal technology integration activity's content, structure, organization and fundamental characteristics as they exist within the training and classroom context (13).

CHAT perspective, words are the cultural artifacts through which the cognitive development-understanding of the individuals and cultural groups can be accessed. A CHAT perspective is concerned particularly with the role of cultural tools and signs. CHAT proposes a suitable structure for analyzing technology integration efforts. It is based on individuals, goals, tools, relationships between community members and intermediary factors (14).

The results of the study showing the integration of cultural historical activity theory (CHAT) and technology analysis have been published. As an example, let's examine the results of this study. The comparison results of the traditional cognitive paradigm and the CHAT paradigm are presented by Koszalka TA and Wu CP (12). Typical original sample for "**Definition of learning"** prepared by the two researchers were shown as follows:

Definition of learning with two paradigms (12):

Traditional Cognitive Paradigm: "Learning is permanent change in schema (assimilation and accommodation to existing memory structures). Knowledge is transferable from one individual to another."

CHAT paradigm: "Learning is a process of constant interaction with the environment and others. Knowledge is constructed by individual learners, built on historical experiences, within his or her context, knowledge is not transferred, and rather it is constructed differently in all individuals."

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Considering the comparison results in the table, CHAT is generally more successful at controlling confounding variables in ethical considerations. As it's known that Confounding is defined as a possible source of bias in studies in which an unmeasured third variable (the confounder) is related to the exposure of interest (although not causally) and causally related to the outcome of interest. Confounding, sometimes referred to as confounding bias, is mostly described as a 'mixing' or 'blurring' of effects (15,16).

Ethics is a cornerstone for conducting effective and meaningful research. Each researcher should be responsible for ethical issues within her/his research. Researcher's minds and researchers are compelled to press for the development and dissemination of new knowledge. Although ethical issues are initially seen as barriers to starting a study, they are clearly an integral part of the process. Paying attention to the ethics of a research requires extra knowledge, thought, and effort. The return of a study that is both methodologically sound, ethically sound and has a high scientific contribution is extremely refreshing (17).

As a result, it is imperative to comply with ethical rules when making an evaluation. Often, however, evaluations are biased by the influence of third confounding variables. Note that CHAT plays an important role in taking control of these confounding variables. Considering the definition rules and interpretation of CHAT, it is seen that the aim of obtaining unbiased results is high. It is seen that this success was achieved by controlling the third confounding variable in the interpretations.

Plagiarism

Originality is entirely a new thinking and a new style. Inventors, however, inventors transform pre-existing material into a new shape with existing materials. According to one paradigm, the work of art is an addition to what exists; according to the other, it is an edition of it. "Originality" is to call a work 'original' is still to evaluate it approvingly not, in terms of what it might have in common with other works (18).

Generally, plagiarism is considered a " lack of honesty " in academia. If the approach style and materials of another study are to be mentioned, and if it is to be interpreted, it must be cited as a reference. Referencing is the best example of teamwork with people you do not know. Sharing the same thoughts and solving problems together constitutes the essence of academic work. It is not important who runs ahead, but who is making a new contribution.

It is important for every academic writer to avoid narrow-minded argumentation trap; academic works are not only about compiling existing arguments, but adding new perspectives, finding new arguments, or new ways of combining existing knowledge. We must avoid the following (19):

1. Copy another person's work (or without their consent) and pretend or claim as your own.

2. The proportion of the original author's words copied without citing the source.

3 Expressing another person's work in other words.

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Colin Neville reported that as a result: **"If in doubt, always cite the source."** (19).

In general, ethical principles relate to not causing harm, either to participants or to the reputation of research. When undertaking your own research work, you will need to follow your university or organization's ethical approval procedure. In some cases, using the found documents as data means that ethical approval is not required. However, this does not mean that there is no potential for participants to be upset or hurt, or even to have potential negative consequences for researchers. Generally, the use of publicly available data for research purposes is considered acceptable, but this confidential research is not always appropriate, especially if individuals are not fully anonymized. In some cases, it may be completely impossible (20).

Hegde MN and Salvatore AP, PhD have summarized the ethical rules in the research as follows (21); The practice of science is an ethical activity.

- Scientists seek to produce positive effects, but negative effects may be associated with many desirable effects of science. The effects of science on society is an ethical issue.
- It is the ethical responsibility of clinical researchers to evaluate the effects of their treatment procedures in an ethically justifiable manner.
- All researchers should follow established procedures for protecting human participants and animal subjects in research.
- There are ethical concerns with treatment research methods: Informed consent may not fully accomplish its objectives; no-treatment and placebo-control procedures pose special ethical dilemmas; randomization maybe both unethical and ineffective; some participant recruitment strategies may be questionable.
- Ethical constraints, though necessary, have certain consequences for study design and data interpretation. Informed consent and participant autonomy essentially negate randomization because under these rules all participants are self-selected.
- The ethical responsibility of researchers is to disseminate research findings. Such dissemination justifies the research and the acceptable risk and inconveniences the participants may have faced.

In conclusion, contributing to science is one of the ideals of every researcher. If it is chosen as an academic field of study, it means that he has attributed a long life to that field. The article provides a summary of the scientific work you have dealt with for many years. This kind of effort should not be wasted because of some issues such as spelling rules.

References

1. Berg BL. Qualitative research methods for the social sciencies. Pearson Education Company, California State University, Long Beach

2.Berger RL. Nazi science: The Dachau hypothermia experiments. New England journal of Medicine 322(20), 1435-1440. 1990.

3.Burns N. and Grove S. The Practice of Nursing Research (2nd ed.). Philadelphia: W. B. Saunders. (1993).

4. Hagan FE. Research Methods in Criminal Justice and Criminology. New York: Macmillan. 1993.

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5. Wexler S. Ethical obligations and social research. In K. L. Kempf (Ed.), Measurement Issues in Criminology (pp. 78-107). New York: Springer-Verlag, 1990.
6. Levine RJ. Declaration of Helsinki. Ethics and Regulations of Clinical Research (2nd ed.). Baltimore: Urban and Schwarzenberg, 1986.
7.Bower RT. And de Gasparis P. Ethics in Social Research. New York: Praeger, 1978.
8. Jain S. Research Article Ethics in Scientific Writing, International Journal of Current Research Vol. 8, Issue, 11, pp.41212-41214, November, 2016
9- Huma Parveen H, Showkat N. Research Ethics See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/318912804
10. Postholm MB, Madsen J.The Researcher's Role: An Ethical Dimension. Outlines No. 1 2006. http://www.outlines.dk/contents/Outlines061/PostholmMadsen061.pdf
11. Smith, LM. The Ethics of Qualitative Research. In E.W. Eisner and A. Peshkin (eds.). Qualitative Inquiry in Education. The Continuing Debate, p. 247-257. New York: Teachers College Press, 1990.
12. Koszalka TA and Wu CP Syracuse University A cultural historical activity theory [CHAT] analysis of technology integration: Case study of two teachers. https://files.eric.ed.gov/fulltext/ED485000.pdf
13. From Wikipedia, the free encyclopedia, Cultural-historical activity theory, https://en.wikipedia.org/wiki/Cultural-historical_activity_theory
14. Mathison S, Tricia R. Meyer TR and Vargas JD. Using verbal protocol methodology in the evaluation of software and hardware. In G. Gery & T. Bennington (Eds.), Information Technologies in evaluation: Social Moral. 1999.
15. Murray KW and Duggan A. Understanding Confounding in Research. Pediatrics in Review vol.31 No.3 March 2010
16. Jager KJ, Zoccali C, MacLeod A and Dekker FW. Confounding: What it is and how to deal with it. Kidney International (2008)
17 Greaney AM., Sheehy A., Heffernan C. et all. Research ethics application: a guide for the novice researcher. British Journal of Nursing, Vol 21, No 1, 2012
18.Macfarlane R. Original Copy Plagiarism and Originality in Nineteenth-Century Literature . Published in the United States by Oxford University Press Inc., New York 2007
19. Neville C, The complete guide to referencing and avoiding plagiarism Second edition. Open University Press McGraw-Hill Education, New York, USA, second edition 2010
20. Aimee Grant A. Doing Excellent Social Rese arc h with Documents Practical Examples and Guidance for Qualitative Researchers. First published 2019 by Routledge New York.
21.Hegde MN and Salvatore AP. Clinical Research in Communication Disorders Principles and Strategies. Fourth Edition Copyright by Plural Publishing, Inc. 2021