

## RESEARCH: IMPORTANT TOOL FOR RESHAPING TEACHING IN HIGHER EDUCATION

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### **Abstract**

One cannot exaggerate the value of research in the classroom. The development of curriculum, education policies, and successful teaching techniques all start with research. Research has a significant role in shaping both the present and the future of education; it is not just an academic endeavour in this field.

In education, research acts as a stimulant for innovation. In order to address the necessary changes in the field of education, it assists educators in investigating novel pedagogical techniques and teaching methodologies. With the aid of innovative methods teachers use to get pupils involved in education, research acts as a stimulant for innovation. In order to address the necessary changes in the field of education, it assists educators in investigating novel pedagogical techniques and teaching methodologies. With the use of innovative methods that teachers use to involve students in the curriculum-based deep learning process, students' knowledge can be increased. Along with actively participating in class, students learn new, research-based (evidence-based) strategies and gain awareness of the complex and ever-changing environment. So if we want to create positive research based educational outcomes we have to analyse teaching methods and technics of teaching. Outcome, strategies and learning surroundings.<sup>1</sup>

Implementation of inclusive classrooms with the support of rules and regulation become possible. In research education, educators use this data to meet the individual learning requirements and obstacles. Practices grounded in evidence<sup>2</sup>

Research helps educators and students make informed decisions by fostering critical thinking, lifelong learning, and the ability to analyse information. It also serves as a link between theoretical and practical knowledge domains, which is why it is included in national education policies for sustainable development.

**Key Words:** Research, Evidence based education, Higher education, Scientific methods, Critical thinking

### **Introduction**

"Educational research" refers to the systematic endeavour aimed at improving our understanding of the educational process, typically with the intention of making it more beneficial. It is the investigation of educational problems with the use of technical methodology. It is a labor-intensive, meticulous, and highly regulated method of using a scientific analysis procedure. The main goals of educational research are to provide answers to questions in the field of education

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<sup>1</sup> <https://gradesfixer.com/free-essay-examples/the-crucial-role-of-research-in-education/>

<sup>2</sup> *Ibid*

and to conduct technical or methodological investigation. Arranging scientific (technical) knowledge concerning issues affecting educators and making possibility of the education research.<sup>3</sup>

The objectives of educational research are the advancement of techniques and the solution of problems. Research in education has made it feasible to build curricula, understand the mental traits of physically challenged people, and adapt instructional strategies to each student's needs. Teachers can improve student learning, increase their understanding of teaching and instruction, and further their own professional development by utilizing action research as a valuable tool. Teachers' increasing workload and strain, their anxiety when writing, their lack of time, and their lack of thoughtfulness in their study are the main issues and challenges they encounter when performing action research.

### **Challenges in implementing research-based education**

**Access to Resources:** It may be difficult to apply current study findings to teaching methods if there is a lack of availability to pertinent journals, databases, and research resources.

**Teacher Training:** It might be difficult for teachers to comprehend and use research approaches in their instruction. Opportunities for professional development may be essential in resolving this problem.

**Time Restrictions:** Teachers may find it difficult to fit research-based methods into their hectic schedules and frequently have little time for professional development.

**Institutional Support:** Research-based education may not be implemented successfully if educational institutions do not provide adequate funds, policy, or facilities.

**Resistance to Change:** Resistance from both educators and students to adopt new teaching methods based on research findings can be a significant obstacle.

**Assessment and Evaluation:** It can be difficult to create efficient evaluations that complement research-based teaching strategies, and newer techniques might not always be fully recognised by established evaluation frameworks.

### **Need and importance**

Research on education aims to solve a difficulty and find out the resolution to answer a question. It involves seeking answers to problems that remain unsolved. Its goal is to push the envelope of knowledge, and originality is typically a hallmark of a successful research project.

In elementary and secondary education, colleges, technical schools like polytechnics and engineering, and medical education facilities, research-based education will be embraced and put into practice. The existing curriculum will be significantly altered as a result, and students' capacity for critical thought, learning, and novel information visualization will all improve. These adjustments will primarily focus on how to steer the educational programme in the direction of the success, innovation, quality improvement, truth-finding, development opportunities, and satisfaction of stakeholder needs, defect removal, and continuous improvement required to earn recognition on a global scale.

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<sup>3</sup> <https://gradesfixer.com/free-essay-examples/the-crucial-role-of-research-in-education/>

In fact the implementation of research-based teaching and learning is beneficial to society and students as well. Research-based education leads to innovation in the educational system.

### Review of Literature

**“Brew A & Boud D, (1995), “Teaching and research: Establishing the vital link with learning<sup>4</sup>,** The current state of the debate over the interrelationships between research and teaching is unproductive. If there is a connection between the two, it is because both research and teaching are focused on the process of learning, albeit in different circumstances. The processes by which knowledge is created and shared require more attention. The key connection is made by those components of teaching that result in learning and the learning that comes from research.”

**Porter, Stephen R., Toutkoushian, Robert K., (2006), “Institutional research productivity and the connection to average student quality and overall reputation<sup>5</sup>,** Although the precise relationship between an institution's reputation and its research and teaching outcomes is unclear, some claim that there is likely to be one. In order to obtain reliable estimates of the ways in which different factors influence research productivity and to better understand the productivity of research at an institution, researchers must model and analyse these interrelationships. However, the majority of institutional rankings and performance indicator systems in higher education ignore an institution's successes and research efforts in favour of focusing only on the average quality of its student body. It is commonly accepted that the purpose of academic staff members and their organizations is to generate teaching, research, and service.”

**Brew Angela 2010, “Teaching and Research: New relationships and their implications for inquiry-based teaching and learning in higher education”<sup>6</sup>** According to the author, the study makes the argument that adopting a strategy centered on the idea of academic communities of practice is essential to improving the interaction between teaching and research. The consequences of doing this for postsecondary education are then discussed. Rethinking the purpose of higher education and renegotiating the dynamics between educators and students are said to be necessary.

**Woei Hung, (2011), “Theory to reality: a few issues in implementing problem-based learning<sup>7</sup>,** as per the author's assertion, the efficacy of an intervention is contingent not only on its theoretical foundation but also on its appropriate execution, which mirrors the principles that stem from its theoretical framework. Discussions regarding the efficacy of problem-based learning (PBL) have primarily centered on the theoretical framework and the learning purposes of students; however, the aspect of implementation has been noticeably lacking. In order to complete the gaps in knowledge and give a more comprehensive understanding of PBL, this study aims to outline the types of research evidence that are required. The author looks at how PBL is now implemented and finds variables that could be confounding and lead to contradictory or inconsistent PBL research findings.”

<sup>4</sup> <https://link.springer.com/article/10.1007/BF01384493>

<sup>5</sup> <https://ideas.repec.org/a/eee/ecoedu/v25y2006i6p605-617>.

<sup>6</sup> <https://digital360india.medium.com/what-is-the-importance-of-educational-research-18431df85c10>,  
<https://github.com/crn565/dsualm/blob/main/citaciones.csv>

<sup>7</sup> <https://link.springer.com/article/10.1007/s11423-011-9198-1>

**Boud D, (2012), “Developing student autonomy in learning”<sup>8</sup>**-The writer in the paper examines issues with the presumptions made about the relationships between "conceptions of learning," "perceptions of the learning environment," "approaches to learning," and "learning outcomes." It concludes that while the model may be effective in providing a broad overview of the "elite" objectives and values of academic culture, further research in the field of academic literacies as a substitute approach to understanding student learning may be necessary before higher education.”

**Tamsin Haggis (2013), Constructing Images of Ourselves, “ A Critical Investigation into ‘Approaches to Learning’ Research in Higher Education”<sup>9</sup>** - The writer The paper examines issues with the presumptions made about the relationships between "conceptions of learning," "perceptions of the learning environment," "approaches to learning," and "learning outcomes." It concludes that while the model may be effective in providing a broad overview of the "elite" objectives and values of academic culture, further research in the field of academic literacies as a substitute approach to understanding student learning may be necessary before higher education.

**Rathnakar. G, (2018), “Research in education its necessity of and importance - a study”<sup>10</sup>** The author claims that educational research is a more rigorous, concentrated, and formal kind of Scientific inquiry and the provision of answers to issues in the realm of education are the primary goals of educational research. The goal of research in education is to organize scientific knowledge about the issues that affect educators and make it accessible to a wider audience. Within the behavioural sciences, educational research focuses on comprehending, elucidating, forecasting, and managing human Behaviour to a certain extent.”

**V. Shanaida1, T. Vitenko1, P. Droździel2, R. Madlenak, (2019), “the role an education and research in process learning of the students of university”<sup>11</sup>** The writers state that educators and scholars from many nations share their opinions on a yearly basis on the connection between the learning process and students' research projects. The study of how a student's personality affects their educational process and research activity; the function and content of the curriculum for the student in their educational activities; the importance of the teacher (tutor) as a crucial and deciding component in providing educational activities and student research activities; and the academic administration's strategic role in boosting student research and academic activity.

**Yuan R, Yang M, Paul S (2020), “Enhancing Undergraduates Critical through Research Engagement: A practitioner research approach”<sup>12</sup>**- The author claims that research engagement gives students a place to participate in an organized inquiry process that helps develop their critical thinking (CT). Participating in research in a variety of ways (e.g., workshops, individual and group analysis, group consultation, presentations, and critiquing) improved their CT dispositions (i.e., flexibility, adaptability, and open-mindedness) and CT skills (i.e., analysis, categorization, and

<sup>8</sup> <https://scholar.google.com/scholar?q=related:pewBhFTgrhwJ:scholar.google.com>

<sup>9</sup> <https://bera-journals.onlinelibrary.wiley.com/doi/abs/10.1080/0141192032000057401>

<sup>10</sup> [https://www.researchgate.net/publication/338260947\\_RESEARCH\\_IN\\_EDUCATION\\_ITS\\_NECESSITY\\_OF\\_AND\\_IMPORTANCE\\_-\\_A\\_STUDY](https://www.researchgate.net/publication/338260947_RESEARCH_IN_EDUCATION_ITS_NECESSITY_OF_AND_IMPORTANCE_-_A_STUDY)

<sup>11</sup> <https://www.researchgate.net/publication/332285376>.

<sup>12</sup> [https://repository.eduhk.hk/en/publications/enhancing-undergraduates-critical-thinking-through-research-engagwww.teljournal.org/article\\_142935.html?\\_action=article&\\_au=Karim++Sadeghi&au=341057https://research-test.aston.ac.uk/en/publications/interprofessional-work-and-expertise-new-roles-at-the-boundaries-](https://repository.eduhk.hk/en/publications/enhancing-undergraduates-critical-thinking-through-research-engagwww.teljournal.org/article_142935.html?_action=article&_au=Karim++Sadeghi&au=341057https://research-test.aston.ac.uk/en/publications/interprofessional-work-and-expertise-new-roles-at-the-boundaries-)

interpretation). In order to further their professional development as future language teachers, the students actively applied the CT they had learned for the project to their own disciplinary context: language teaching<sup>13</sup>.

**Mayurakshi Basu, (2020), Importance of Research in Education**<sup>14</sup> The author claims that research is generally accepted as having advantages for people as well as for local, regional, national, and worldwide communities participating in the field of educational.

**Mehta Jyotsna, (July 2023), Growing importance of academic research in Education**<sup>15</sup> - The author claims that it is impossible to dispute the increasing significance of academic research Whether it is for professional or personal growth, carefully thought out and done research always significantly alters our perceptions and helps with issue solving, troubleshooting, and decision making.

**Ahmad M, (2023), “Making education research relevant: importance and necessity”**<sup>16</sup> Educational research, according to the author, is a methodical efforts and it is the study of educational issues through the application of the technical methods. It is a highly structured, methodical, and labor-intensive approach of applying a scientific analysis technique..

**Kapur R, (2018), Significance of Research in Education**<sup>17</sup>, “The importance of educational research, According to author-“An essential component of the entire educational process is research. It has a significant impact on how people learn generally as well as the quality of education and learning results for pupils. The goal of educational research is to understand why some approaches to teaching and learning are more effective than others. They also examine strategies that work well for advancing learning in general. This entails determining the issues with the current system and creating potential fixes for them.”

**Scholars also examine more general concerns in education:** Some academics investigate the impact of cultural variations on instructional strategies or students' classroom learning experiences. By shedding light on the various ways that individuals acquire and comprehend knowledge, these studies have the potential to enhance the educational experience for every student.

**It enhances instructional strategies:** Educational research facilitates the assessment of current instructional strategies and the development of innovative approaches to teaching and learning.

**It facilitates curriculum design:** which is the process of selecting the material to teach, organizing it, organizing how it will be delivered, and assessing how well it works. Educational research considerably improves the process by providing knowledge about what individuals currently know, what they need to learn, and so on.

<sup>13</sup> <https://repository.eduhk.hk/en/publications/enhancing-undergraduates-critical-thinking-through-research-engag>

<sup>14</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3703560,](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3703560)

<https://repository.eduhk.hk/en/publications/enhancing-undergraduates-critical-thinking-through-research-engag>

<sup>15</sup> <https://modernlawcollege.org/january-to-july-2023/>

<sup>16</sup> <https://risingkashmir.com/making-education-research-relevant-importance-and-necessity-263eaa2b-ca2f-4c37-a7cd-dc87393897df>

<sup>17</sup> [https://www.researchgate.net/publication/.323833808\\_Significance\\_of\\_Research\\_in\\_Education.](https://www.researchgate.net/publication/.323833808_Significance_of_Research_in_Education)

**It raises the standard of education:** by giving teachers information about learning objectives and processes, which helps them to enhance not just the quality of their instruction but also that of other areas of the curriculum.

**Growth of an Organisation:** Education research is an activity focused on the corpus of scientific information regarding the events that affect educators.

**Generate information:** Research in education is the application of scientific analysis techniques to enhance educational planning, decision-making, instruction, curriculum development, comprehension of children and youth, utilisation of instructional media, school administration, and teaching and learning.

**Purifies the workings:** Research is the pursuit of knowledge with a primary focus on quality improvement.

### **Contribution of Academic Research<sup>18</sup>**

Research is a step by step, systematic investigation or inquiry especially through search for new facts. On the other hand education is regarded as the aggregate of all the processes by which a person develops abilities, attitudes and other forms of behavior of practical values in the society in which the scholar lives.<sup>19</sup>

**Contribution towards economic development:** For an economy or country to develop or remain competitive, it must have a good education system that caters to the needs of its people<sup>20</sup>.

### **In the five stages of research-based learning students:**

a. **Recognize and explain difficulties, issues, questions, challenges, and puzzles:** Recognizing and explaining problems, issues, challenges, and questions for discussion and investigation is a crucial part of research-based learning. The student has the ability to actively participate in the learning process and look for relevance in the work they are completing.

b. **Locate and analyse information:** Students must look for, locate, read carefully, analyse, and apply information from one or more sources that is relevant to the specified problem and question. While they look for resources, read material, organize, classify, define, and conceptualize data. They improve as readers as a result of the process.

c. **Think critically and creatively:** Students are given the chance to interpret, apply, compare and contrast, infer, analyse, synthesize, and think creatively using the knowledge they have explored.

d. **Apply information and concepts to formulate conclusions:** Students make use of their knowledge to formulate conclusions, finish real-world tasks, synthesize findings, resolve issues, reach judgements, or respond to important inquiries.<sup>21</sup>

e. **Share findings:** Students can share the findings of their research in a variety of ways, including written research reports, persuasive essays, children's books, a plan of action, solutions to arithmetic problems, and slide shows for community members.

<sup>18</sup> <https://www.coursehero.com/file/124487515/3RD-PERIODICALdocx/>

<sup>19</sup> <https://www.semanticscholar.org/paper/Importance-of-Research-in-Education-Basu/8edfd68d3c8c203348d3096abce4db5e66072fb8>

<sup>20</sup> <https://digital360india.medium.com/what-is-the-importance-of-educational-research-18431df85c10>

<sup>21</sup> <https://www.solutiontree.com/blog/research-based-learning-a-lifelong-learning-necessity/>

The capacity to assist students in comprehending and consistently applying this methodology, through the provision of research-based learning opportunities, is one of the most crucial elements of a successful research-based learning programme. As a result, students are encouraged to bring in extra materials and resources to aid in the understanding of a subject, select and finish projects and performance assignments as a component of their study units, and engage in debates based on data from reliable sources.<sup>22</sup>

**The role educational institutions:** play in addressing global problems and fostering innovation via research.

“When it comes to addressing big societal concerns, management scholars have a distinct advantage since "science lies at the heart of solutions to important problems." They are able to face significant hurdles pertaining to people, actions, groups, and establishments that commonly surface while dealing with issues that affect the entire society. They can contribute to the creation of a more inclusive society by conquering these challenges. iii A recent study found that 36% of researchers consider one of their most significant responsibilities to be resolving political, social, economic, or environmental issues. European universities are at the vanguard of "Europe's drive to create a knowledge-based society and economy and improve its competitiveness," according to the European Council Resolution.”

Scholars from a variety of disciplines, including management, economics, sociology, science, and technology, have also examined the effects of university-industry ties on innovation of these, 46% of researchers feel that their primary function in society is to “enable innovation”. As a result, educational institutions are crucial to the development of value and to technological, cultural, and societal advancements.

Consequently, there are several reasons why academic research is vital, but the main one is

- 1) It makes learning and the learner's deeper understanding easier.
- 2) It draws attention to a number of queries that could come up when examining the circumstance and topic.
- 3) By addressing important challenges, it promotes the expansion of businesses.
- 4) It promotes academicians, students, and learners' personal development.
- 5) It broadens the scope of the research subject and advances knowledge in that field.

It is essential that Indian educational institutions and research centers raise the bar for research done and concentrate on generating excellent work that is verifiable, genuine, and reliable.

2. Establishing cross-disciplinary collaborations across academic institutions, and comprehension of global phenomena.

### **Research contributes to the growth and success of higher education institutions**

Although the effects of research conducted by educational institutions on society have been extensively studied, it is important to keep in mind that research also has a significant influence on the institutions themselves. First, research has an effect on instruction that aids in "the development of responsible and autonomous professionals, who reflect on their work and have learned how to continuously improve their skills." But the advantages extend to the students as

<sup>22</sup> <https://journalppw.com/index.php/jppw/article/download/12567/8146/15092>,

well as the teachers. Students that conduct research typically possess stronger critical thinking and problem-solving abilities.<sup>23</sup>

According to studies, research improves problem-solving abilities. As a result, it primes the mind to comprehend ideas and theories more fully. Students who conduct study on any subject learn in-depth details about that subject. The research aids in the clarification of the complex numbers and facts. In order to clear up any misunderstanding and gain a thorough comprehension of the material, students should thoroughly investigate and examine any doubts they may have about the subject. Research has a critical role in education since it provides.<sup>24</sup>

Additionally, research is important for accreditations and the university's competitiveness, both of which help it draw top faculty and student talent.

These days, the main emphasis is on figuring out how to assess and contrast the calibre and potency of academic research, teaching, and learning. Techniques for evaluating the activities and outcomes of higher education have gradually increased over the past few years, particularly in the case of university-based research. For instance, university rankings are now commonplace worldwide.<sup>25</sup> . Research productivity has been demonstrated to positively correlate with institutional reputation and ranking.<sup>26</sup> The assessing and the impact of research must go beyond numbers to consider how it affects society as a whole. There will be an increasing number of international assessments on the calibre and effectiveness of research as the world grows more connected.<sup>27</sup>

### Role of educators

A group of educators serves as the university's leadership group. This arrangement serves as a conduit between the students and the university's or academic administration. Students' research projects and the instructional process are carried out by this framework. In this cooperation, the teacher's personality is equally as significant as the student's.

Priority directions for research and instruction are established by the university's and the faculties' strategic activities. Their proactive collaboration with employers fosters young people's creativity and advances the growth of cutting-edge scientific and economic fields.<sup>28</sup>.

**Challenges of Research in Education:** The difficulties include the necessity for research and evidence to support learning and teaching, but also the possibility that these may be based on

<sup>23</sup> Yuan, R., Yang, M., & Stapleton, P. (2020). *Enhancing undergraduates' critical thinking through research engagement*. <https://repository.eduhk.hk/en/publications/enhahttps://journal.iainlangsa.ac.id/index.php/tarbawi/article/view/6924ncing-undergraduates-critical-thinking-through-research-engag>.

<sup>24</sup> <https://risingkashmir.com/making-education-research-relevant-importance-and-necessity-263eaa2b-ca2f-4c37-a7cd-dc87393897df>.

<sup>25</sup> Hazelkorn, E. (2010). *Assessing Europe's university-based research*. Luxembourg: Publications Office of the European Union <https://hospitalityinsights.ehl.edu/importance-research-educational-institution>, <http://scindeks.ceon.rs/article.aspx?page=0&query=RELAID%26and%260048-57051201043M&sort=1&stype=0>

<sup>26</sup> Porter, S. R., & Toutkoushian, R. K. (2006). *Institutional research productivity and the connection to average student quality and overall reputation*. *Economics of Education Review* <https://ideas.repec.org/a/eee/ecoedu/v25y2006i6p605-617.html>.

<sup>27</sup> *Ibid.*

<sup>28</sup> <https://www.researchgate.net/publication/332285376>



theory, thought, philosophy, suitability, or prejudice. Education research should prioritise promoting and advancing equality, egalitarianism, and equitable opportunities for all. Ideology can be unstable and dangerous. In addition to offering academic skills and supporting students' skill development, growth, and advancement. Students are the nation's future citizens. If skill development is handled properly and they receive proper training, young people may effectively contribute to the advancement and development of their communities and the country. It is the societal duty of educators to foster dynamic.

Apart from the previously imparted knowledge, novel hypotheses and advancements in technology have occurred and continue to occur. If one does not engage in critical examination and instead bases their practice solely on personal learning experiences, they run the risk of mean education being antiquated, invalid, and non-progressive. It is impossible for one hypothesis to support itself. Learning and students are complicated, and a variety of factors, such as personality traits, age, gender, area, and social and familial backgrounds, influence how well students perform. Theoretical knowledge needs to be evaluated, communicated, and challenged in order for researchers to get familiar with theories that apply to particular local and personal settings. Controllability and appropriateness are also essential. Teachers at secondary and postsecondary educational institutions are required to control students' attitudes, actions, and inner workings.

It is their duty to ensure that students have understood the research techniques they have provided. Learning new concepts and habits can hurt, especially in the beginning. Because of this, it's imperative to implement effective teaching-learning practices and ensure that students have acquired useful knowledge. It is not enough to only lay the groundwork for convenience-based teaching and learning. Research has aided in the development of a toolkit to deal with unforeseen circumstances, the identification of problems, the acquisition of sufficient knowledge, the improvement of situations, and more. It has also helped people understand what kind of strategy would be appropriate in what kinds of situations, as well as the short- and long-term inferences.

The many research kinds ought to be suitable and approved by people who create, organise, and implement policy. Numerous studies have been conducted on the performance of students, and these studies can be used to find trends and connect academic success to social and economic demands. What matters to policy makers is the larger picture. But the main question that practitioners have is why some tactics work and others don't. It is essential that professionals feel secure in the knowledge they are given, and research ethics offer that guarantee.

Effective understanding and information regarding the numerous aspects involved are essential for those conducting research. They consist of gathering data, organising it, analysing it, and deriving the study conclusions. Experimentation and creative thinking are not part of teaching.

Throughout the teaching process, it is crucial to employ the methods and strategies required to guarantee the efficacy of the teaching-learning processes. Teachers and education professionals need to know what works and why. In general, it is wise to use methods that produce favourable outcomes.

In higher education, research is employed extensively, especially by master's degree candidates. It can be action-oriented, qualitative, quantitative, applied, or basic research, among other kinds.

Because it doesn't require calculations or numerical data, qualitative research is more interesting than quantitative research and is carried out through interviews. In contrast, surveys are the main means of gathering data in this case of quantitative research, which makes use of numerical data. These people need to be skilled and well-informed about these kinds of research procedures. Teachers will surely show that research is done in a more formal way, regardless of whether their actions lead to better student achievement, motivation, dedication, or behaviour. The Ethical Considerations in Research When conducting research, it's imperative to take the ethical

**The moral deliberations have been stated as follows**

When conducting research under sponsorship, wherein the sponsoring organisation provides financial support, a researcher may be required to meet specific criteria set by their client. The subjects, users, and larger society are the researcher's top priorities.

When a researcher does study under sponsorship—a situation in which the sponsoring organisation offers financial support—they could be asked to fulfil certain requirements established by their client. The user, the general public, the sample, the responders, the researcher's colleagues in the field, and other subjects are all valued by the researcher. Data that could cause the sponsoring organisation to draw unfavourable conclusions or judgements should not be thrown out. Regarding the data that is obtained from the respondents, the researcher must strictly protect their privacy.

Nothing to be concerned about without permission from the respondent. When using volunteers as subjects in an experiment, the investigator should fully explain the protocols to the subjects. This should cover the length of the experiment, the risks involved, and any conditions that the participants must fulfil, such staying back after school for an hour. Six months will pass during the experiment.

It is best to explain to the participants the purpose of the study or experiment in which they are taking part. When interacting with school-age children who are minors or mentally challenged students, consent from parents or guardians is necessary. This phenomenon is known as informed consent. The researcher should respect the subjects' right to withdraw from the experiment or to not participate at all. Field trips can result in rejections and negative reactions, thus researchers need to be adequately prepared for these kinds of responses. In order to ensure the participants' engagement and continued involvement in the experiment, the researcher should never make superfluous attempts to offer encouraging treatment after the data has been collected.

These efforts could involve improving grades in academic disciplines, managing finances, and other areas. The researcher must take all reasonable precautions to protect people in experimental research from stress, anxiety, pressure, hazards, and physical and mental injury. These precautions may be temporary or permanent. The data should be made available for peer review by the researcher<sup>29</sup>. The reasons why the researchers are gathering data from the respondents may occasionally be questioned by the respondents. They might inquire as to the goal of the investigation. The goal of the study and the data collection from the respondents should be adequately explained by the researchers to the respondents.

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<sup>29</sup> [https://www.researchgate.net/publication/323833808\\_Significance\\_of\\_Research\\_in\\_Education](https://www.researchgate.net/publication/323833808_Significance_of_Research_in_Education)

This is necessary for both the experimental protocols and, if applicable, the study's conclusions. All individuals who provided support and assistance throughout the research study, tool construction, data collection, data analysis, or research report preparation should be duly acknowledged by the researcher. Researchers should give these people credit and express their gratitude, especially to the supervisors who oversaw the execution of the research project.

These initiatives could focus on handling money, enhancing academic performance, and other areas. In order to protect experimental study participants from risks, hazards, stress, anxiety, and pressure, as well as any short- or long-term impacts, the researcher must take all necessary precautions. The researcher should make the data available for peer assessment.

Occasionally, the participants may inquire about the reasons behind the researchers' data collection efforts. They might inquire as to the aim of the probe. The goal of the study and the procedures followed in order to gather data from the respondents should be adequately explained to them by the researchers. This is necessary for both the experimental protocols and, if applicable, the study's conclusions.

The participants must be assured by the researchers that their responses will be handled in the strictest of confidence. Only aggregate data will be made public; no additional personal information about them will be disclosed. Respondents may be reluctant to respond at times if they have revealed personal information. Frequently, they require a letter from the division or company the researcher works for. When respondents are informed about the goals of the study and the qualifications of the researchers, they usually agree to provide information.

Research misconduct can be caused by a variety of factors, including family problems, financial difficulties, a lack of funding for research, a lack of enthusiasm from the employer, brain drain, inadequate training, an excessive amount of administrative work, a lackluster mentorship programme, a heavy workload that leaves little time for research, inadequate research grants, inadequate infrastructure, and research misconduct.<sup>30</sup>

### **Conclusion**

There has to be a major overhaul of the current system in order to raise awareness of the importance of research in all fields of study. By integrating research into the classroom, we may perform analysis, uncover new data, and better educate students for the problems of the contemporary world.

### **Suggestions**

Collaboration between academics, researchers, and educational institutions must be promoted in order to address these challenges. There also has to be opportunities for professional development and a culture of ongoing learning. Developing an institutional framework that encourages experimentation and the adaptation of research-based methodologies is the element that can aid in successful implementation.

### **References**

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