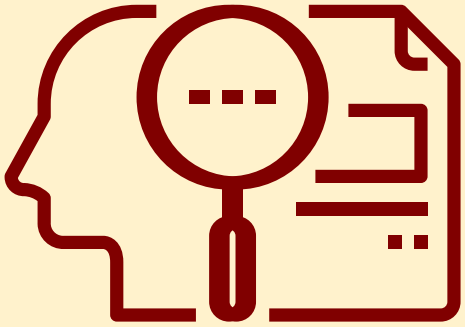

Outcome Based Education and Research: A Multidisciplinary Approach

Editors

V. K. Ahuja
Ram Niwas Sharma
Gitanjali Ghosh

National Law University and Judicial Academy
Assam

2024

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Prof. (Dr.) V. K. Ahuja
Vice-Chancellor, NLUJA, Assam

Prof. (Dr.) Ram Niwas Sharma
Visiting Professor of Law, NLUJA, Assam

Dr. Gitanjali Ghosh
Associate Professor, Department of Law, Tezpur University

Student Editorial Committee

Mr. Shrey Goyal

Mr. Ritu Raj

Ms. Zara Hannah Kabir

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अध्यक्ष, भा.वि.सं.
कुलपति, विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय, मेघालय
Prof. Gauri Dutt Sharma
President, AIU
Vice Chancellor, University of Science & Technology, Meghalaya

भारतीय विश्वविद्यालय संघ (भा.वि.सं.)
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FOREWORD

"Outcome based Education and Research: A Multidisciplinary Approach" marks a pivotal moment in the world of education and research. It is a testament to the transformative power of a paradigm that has, in recent years, taken the academic community by storm. Through these pages, readers will embark on a journey of discovery, one that explores a fresh and innovative approach to education and research that promises to shape the future in profound ways.

The world is changing faster than ever before. Technology, globalization, and societal shifts have created an environment where adaptability, creativity, and critical thinking are the currencies of success. In such a world, traditional models of education and research, rooted in rote memorization and isolated silos of knowledge, are increasingly outdated. This book is a beacon of light that illuminates the path forward- a path defined by outcomes, multidisciplinarity, and a relentless pursuit of excellence.

The foundation of outcome-based education (OBE) and outcome-based research (OBR) is the recognition that the pursuit of knowledge is not an end in itself but a means to an end. It is about equipping learners and researchers with the tools to apply their knowledge effectively, create meaningful solutions, and contribute to society. In traditional systems, the emphasis has often been on inputs- how many hours a student spends in the classroom, how many assignments they complete, or how many publications a researcher produces. These inputs, while important, are mere steps in the journey. The destination is the outcomes- what a student has learned and can do, or what impact a researcher's work has had on the world.

In this foreword, I want to highlight some of the key themes that underlie the philosophy and practice of outcome-based education and research.

One of the most compelling aspects of OBE and OBR is their inherent multidisciplinarity. These paradigms break down the barriers between academic disciplines and encourage collaboration across fields. This book is a celebration of this spirit of inclusivity. It brings together experts from diverse domains- education, psychology, engineering, medicine, the arts, and more- to showcase the universal applicability of outcome-based approaches.

As our world becomes increasingly interconnected, the need for cross-disciplinary thinking and problem-solving has never been more urgent. OBE and OBR provide a fertile ground for nurturing the kind of versatile, adaptable, and open-minded individuals and researchers that our complex global challenges demand. It is a call to break free from the constraints of rigid disciplinary boundaries and embrace the rich diversity of perspectives that can lead to transformative discoveries.

The OBE and OBR paradigms are not mere abstractions; they are practical approaches that can be implemented in a wide range of educational and research settings. This book is structured to provide readers with insights into both the theory and the practice of outcome-based education and research.

Assessment is a central theme in the OBE and OBR paradigms. It is through assessment that we gauge the effectiveness of our educational and research efforts. One of the key challenges in this area is the tension between standardized testing and more holistic, qualitative assessments. OBE and OBR call for a reevaluation of how we measure success, emphasizing the development of competencies and the demonstration of practical skills. The question of what and how to assess is a complex one, and it is crucial that we engage in thoughtful and informed conversations to address it.

This book is, at its core, a call to innovate. The world is changing, and education and research must change with it. The

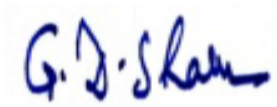
future demands thinkers, doers, and researchers who are not bound by the conventions of the past but who are empowered to create a better future. The OBE and OBR paradigms are potent instruments of change. They challenge us to rethink what education and research can be, to challenge the status quo, and to push the boundaries of knowledge.

As you read this book, I encourage you to reflect on your own role in this transformation. Whether you are an educator, a researcher, a policymaker, or a student, you have the power to influence the trajectory of education and research. You can be a catalyst for change, an advocate for outcomes, and a champion of multidisciplinarity.

This is more than just a book; it is a roadmap to a future where education and research are driven by the pursuit of excellence, impact, and adaptability. As the world continues to change, we must change with it. We must equip ourselves and the generations that follow with the tools and mindset to thrive in an ever-evolving landscape.

I extend my deepest gratitude to the authors, editors, and contributors who have made this book possible. Their dedication to the cause of outcome-based education and research is an inspiration. I also thank you, the reader, for embarking on this intellectual journey. I hope that this book will spark a fire within you, a commitment to fostering a future where education and research lead to outcomes that truly matter.

The future is in your hands, and it begins with the turning of these pages.



(Prof. G.D. Sharma)

PREFACE

Outcome-based education aims at endowing students with the capability of applying acquired knowledge and skills in dealing with practical situations. Therefore, curriculum framework, continuous evaluation, research, and collaboration act as a bridge between the academic and professional world as it exposes students to contemporary problems thereby providing them with an opportunity to resolve them by applying their knowledge and skills. The National Education Policy, 2020 has duly stressed on the importance of research in the higher educational institutions of India. Amidst the plethora of hindrances in conducting quality research, a lack of sound knowledge of research methodology is quite prominent as it has detrimental effects on the ability of the researcher to conduct meaningful research and produce quality research output. To exacerbate the situation, it is pertinent that researchers are endowed with nuanced knowledge of research methodology.

In this background, the National Law University and Judicial Academy, Assam organized an intensive "One Week Online Short-Term Course on Outcome Based Education and Research" from April 19-23, 2023 to provide participants with an opportunity to gain systematic knowledge of outcome-based education and research and thereby hone their research skills. Eminent personalities from prestigious universities across India engaged the stimulating sessions. It is the transcripts of these sessions that have been duly converted into chapters in this book by the esteemed authors. Additionally, a plethora of chapters by eminent professor on varying aspects of NEP have also been added in this book.

The journey towards outcome-based education and research began as a response to the evolving needs of society. In a rapidly changing world, the ability to adapt, learn, and apply knowledge is paramount. Traditional systems often struggled to provide students and researchers with the skills and competencies required to thrive in this dynamic environment. In the ever-evolving landscape of education and research, a profound

transformation is underway. Traditional paradigms and methodologies are giving way to a more holistic and dynamic approach, one that is centred on outcomes. This book explores this pivotal shift and the multifaceted ways in which it is shaping the future of education and research.

Outcome-based education (OBE) emerged as a promising solution, emphasizing the measurement and evaluation of students' abilities and the practical application of knowledge. It focuses on defining clear and specific outcomes that learners are expected to achieve and tailoring the educational experience to meet these goals. OBE shifts the focus from what is taught to what is learned and retained. It places the onus on educators to facilitate learning and the responsibility on learners to demonstrate their understanding through tangible results.

In the realm of research, a parallel shift is occurring. Outcome-based research (OBR) is a recognition that research should not just produce publications but have a discernible impact on society. Whether it is in the sciences, humanities, or social sciences, research must be driven by the potential to improve the human condition. OBR goes beyond merely publishing papers and focuses on producing outcomes that influence and change the world for the better.

This book celebrates the multidisciplinary nature of outcome-based education and research. We recognize that the OBE and OBR paradigms extend far beyond traditional academic silos. They are inclusive, collaborative, and seek to engage individuals from various fields and backgrounds to work together in crafting meaningful outcomes.

This book is not just a passive examination of outcome-based education and research. It is a call to action, an invitation to engage in the transformation of education and research paradigms. It encourages educators, researchers, policymakers, and learners to embrace a future where the focus is not merely on what is taught or researched but on what is achieved.

Through these pages, we aim to inspire readers to challenge the status quo, to seek out innovative solutions, and to foster collaboration across disciplines. It is our hope that "Outcome based Education and Research: A Multidisciplinary Approach" will spark dialogue, innovation, and, most importantly, real-world change.

Editors

ACKNOWLEDGEMENTS

Writing a book is a labour of love and a collaborative effort and this book would not have materialized without the valuable guidance and generous help of several individuals who in one way or another have contributed towards the preparation and completion of this book. We would like to take this opportunity to acknowledge their contribution and express our gratitude for the same.

To begin with, we would like to express our sincere gratitude to all the esteemed contributing authors of this book. Your scholarly contributions, insights, and expertise have not only enriched the content of this book but have also expanded the boundaries of knowledge in your respective fields. Your willingness to share your research and perspectives is truly commendable, and we are honoured to have had the opportunity to work with each of you.

We would like to express our heartfelt thanks to our students Mr. Aditya Jha, Ms. Anuja Prakash, Mr. Barsay Vikranta Pradeep, Ms. Gopika Gopal, Mr. Hrishikesh Reddy Kothwal, Mr. Nihal Chhetri, Mr. Shashank Mall, Mr. Shrey Goyal, Mr. Tapesh Chauhan, Ms. Tejashwini Mallick and Ms. Vridhi Kashyap who painstakingly converted the initial transcripts of the lectures into editable chapters. A word of gratitude is also due to the student editors of this book Mr. Ritu Raj, Mr. Shrey Goyal, and Ms. Zara Hannah Kaiser.

We also seek to convey our sincere thanks to Dr. Kankana Baishya, Assistant Librarian, National Law University and Judicial Academy, Assam for her kind assistance in securing ISBN No. for this book.

The Editors express their gratitude to Prof. (Dr.) V. K. Ahuja, Hon'ble Vice-Chancellor, NLUJA, Assam for his constant support and patronage. The Editors are also acknowledge proactive administrative contribution of Mr. Gunajit Roy Choudhury (ACS), Registrar, NLUJA, Assam and Dr. Nandarani

Choudhury, Asst. Registrar (Academic) of the University in the course of publication of this book.

We would like to thank Mr. Mukut Deka, Jr. Superintendent and Mr. Satyajit Deb, System Operator, National Law University and Judicial Academy, Assam for their kind assistance in preparing the printable format of this book.

Finally, we want to express our gratitude to the readers, who are the ultimate reason for writing this book. Your curiosity and interest in the subject matter are what motivates us to continue to create and explore. Your interest in the topics discussed within these pages is what drives the creation and dissemination of knowledge, and we hope that this volume proves to be a valuable resource in your academic or professional pursuits.

To everyone mentioned and to all those whose names are not listed but who have been part of this journey in some way, we extend our heartfelt thanks. This book is the culmination of a collective effort, and we are profoundly grateful for the role each of you has played.

As we release this book into the world, we do so with a heart full of gratitude and a profound appreciation for the support and encouragement we have received. Thank you all for being a part of this incredible journey, and we hope this book brings as much joy to its readers as it has brought to us in its creation.

Editors.

ABOUT THE AUTHORS

Prof. (Dr.) A.P. Singh is Professor of Law and Dean, University School of Law and Legal Studies, GGS IP University, Dwarka, New Delhi. Prior to this, he has served at Government Dungar College, Bikaner; National Law University, Jodhpur; and Dr. Ram Manohar Lohiya National Law University, Lucknow. He has three decades of teaching and research experience and has published multiple books and research articles in addition to presenting papers at numerous conferences. He holds membership of ILI, New Delhi, ISIL, New Delhi and IIPA, New Delhi.

Prof. (Dr.) Chidananda Reddy S. Patil is Professor of Law and Head, Research Centre for Democracy and Constitutional Government, Karnataka State Law University, Hubballi, Karnataka. He has taught law for over three decades at Mysore, Bangalore and Dharwad. He has also worked on the academic bodies of various universities. Apart from authoring a book and editing a few others, he has also published numerous articles.

Prof. (Dr.) M.S. Sisodia is Professor, Department of Geology, Jai Narain Vyas University, Jodhpur and Visiting Scientist, Physical Research Laboratory, Ahmedabad. His major fields of scientific interests are planetary, science and sedimentology. He has decades of teaching and research experience and numerous publications to his credit. He has also delivered a plethora of lectures in India, as well as abroad. He is also a recipient of prestigious awards and fellowships.

Prof. (Dr.) Pradeep Kulshrestha is Dean, School of Law, Bennett University, Greater Noida. Prior to this, he was Dean, Sharda School of Law; Dean, School of Law, KR Mangalam University, Gurugram; and Dean, School of Law, Galgotias University, Greater Noida. He graduated in Law from Kurukshetra University and received LL.M. and Ph.D. from Jodhpur University. He obtained MA (Political Science) from Punjab University, Chandigarh. He has authored several books, research papers and has presented papers at conferences. He

also serves with the governing body of quite a few institutions. In recognition of his contribution to the field of legal education, he has been awarded Honorary Doctorate by National American University of South Dakota.

Prof. (Dr.) R.N. Sharma is Visiting Professor of Law, National Law University and Judicial Academy, Assam. Prior to this, he was Vice-Chancellor, IASE Deemed University; Professor of Law, Dean & Head, JN Vyas University Jodhpur; Dean, School of Law, Mewar University and Dean, School of Law IMS Unison University, Dehradun. He has authored several books, articles and presented papers at numerous conferences. He has delivered numerous extension and invited lectures.

Prof. (Dr.) S. Viswanadha Raju is Professor, Department of Computer Science and Engineering, JNTUH University College of Engineering, Jagtial and Vice-Principal, JNTUHCEJ, Jagtial. He has also served as Director, MCA-GRIET and Head, Dept. of CSE, JNTUHCEJ. He has over two decades of teaching and research experience, and has several publications to his credit. He also holds a plethora of patents as well. He has also delivered numerous invited lectures in India and abroad.

Prof. (Dr.) S.R. Jakhar is presently serving as Professor and Head of the Department of Geology, Jai Narain Vyas University, Jodhpur. He has served as Professor and Head of the Department of Geology, M.L.S. University, Udaipur; as Director Research at M.G.S. University, Bikaner; as Associate Professor and In-charge, Department of Geology, MBM University, Jodhpur. He has over three decades of teaching experience and has published numerous books and articles. He has completed several projects funded by DST, UGC, Ministry of Earth Sciences, and RUSA.

Prof. (Dr.) T.R. Subramanya is Dean, CMR University School of Legal Studies, Bengaluru. Prior to this, he was Professor of Law, The West Bengal National University of Juridical Sciences, Kolkata; Vice-Chancellor (in-charge), Bangalore University; Dean and Chairman of the Faculty of Law, Bangalore University;

Registrar (Evaluation) and Registrar (in-charge) Administration, Bangalore University; Vice Chancellor of Karnataka State Law University, Hubballi, Karnataka. He has also served as the honorary member of the Karnataka State Law Commission and as Legal Counsellor to the Kingdom of Bahrain. He has had a distinguished academic career throughout and apart from the innumerable papers published in a variety of journals, he has authored several books too.

Prof. (Dr.) Yogesh Pratap Singh is Vice-Chancellor, National Law University, Tripura. Prior to this, he served as Vice-Chancellor (i/c) and Registrar, National Law University, Odisha and Deputy Registrar, Supreme Court of India (on deputation). He is an alumni of University of Allahabad and National Law School of India University, Bengaluru.

Dr. Hardik Daga is Assistant Professor, School of Law, UPES, Dehradun. He is an alumni of National Law University, Odisha; National Law University, Jodhpur and Jai Narain Vyas University, Jodhpur. He specialises in the area of International Trade Laws, International Investments Law and Contract Law. He has numerous Scopus, UGC and book publications under his belt.

Dr. Hemlata Joshi is Assistant Professor, Department of Psychology, Jai Narain Vyas University, Jodhpur. Her areas of interest are mental health, cognitive psychology, indigenous psychology and research and statistics. She has published several articles and has presented papers at various conferences and seminars. Her MOOC titled “Biopsychology” is hosted on SWAYAM.

Prof. (Dr.) Madhu Prabakaran, an alumnus of Tata Institute of Social Sciences, is currently working as Professor and Dean of the “School of Liberal Arts” at IMS Unison University, Dehradun. His contributions are in the area of social sciences, social philosophy, research methodology and higher education. He introduced and streamlined “praxis Intervention” as a contribution to research methodology through his PhD thesis.

He has his contributions in varied field such as good governance, human ecology studies, suicide research, and involved in research projects related to urban poverty alleviation, and subaltern lifeworld.

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PART-I

PART-II

DEVELOPING STUDENT LEARNING OUTCOME STATEMENTS

Prof. (Dr.) S. Viswanadha Raju*

Introduction

The process of framing course outcomes for a specific course shall be discussed through the course of this piece. To begin with, it is essential to understand the concept of Bloom's Taxonomy and its role in course outcome formulation. Bloom's Taxonomy serves as a crucial framework not only for designing curriculum but also for understanding teaching methodologies. When teaching a particular course, it is important to determine which level of Bloom's Taxonomy aligns with the course goals. Additionally, it is necessary to design appropriate examination questions that cover various cognitive levels. This is the essence of Bloom's Taxonomy, which plays a vital role in education.

Now, the different domains within Bloom's Taxonomy shall be explored. There are three types of domains: Cognitive Skills, Affective Domain Skills, and Psychomotor Domain. Cognitive Skills refer to the fundamental abilities of the brain, such as thinking, reading, learning, remembering, reasoning, and paying attention. These skills primarily focus on subject-oriented tasks. The Affective Domain involves our emotions, feelings, and attitudes. To develop these skills, engaging in group activities can be highly beneficial. Finally, the Psychomotor Domain pertains to physical movement, coordination, and the use of motor skills. It is particularly relevant in sports and cultural activities, as participating in such activities promotes physical fitness, enabling individuals to undertake various endeavours. These three domains play a

* Department of Computer Science & Engineering, JNTUH University College of Engineering, Jagtial.
I gratefully acknowledge the sources of all pictures/photos which I have taken from various websites. The pictures/photos/data are in public domain

significant role in achieving desired course outcomes, which shall be elaborated upon in the upcoming sections.

Cognitive Skills

Coming to the topic of Cognitive Skills, they are divided into six categories, the first of which is remembering, which involves recalling information. For instance, if one asks, “Do you know the data?” and the other person can provide the answer, that demonstrates the skill of remembering (Describe-Relate-Tell-Find).

Next is understanding, which entails comprehending concepts. If one asks, “What is the use of a fan?” and the other can explain it that showcases understanding. Similarly, one can discuss the applications of a fan, such as using it during the summer season or for other purposes (Discuss-Outline-Explain-Predict).

Applying refers to utilizing knowledge in practical situations. For example, one can illustrate the use of a fan or solve a related problem (Use-Illustrate-Complete-Solve).

Moving on to analysing, one can compare a fan and an air conditioner and determine the best choice based on factors like financial ability and surrounding conditions. Analysing helps in decision-making (Identity-Compare-Explain-Categorize).

Evaluating involves justifying the choices made. For instance, if one needs to select either a fan or an air conditioner, they would evaluate their merits and prioritize accordingly. This skill requires decision-making and justification (Decide-Prioritize-Rate-Justify).

Lastly, there's the creative skill, which allows for innovation. If one finds it inconvenient to constantly turn on and off an air conditioner, they can think creatively and devise a solution, like incorporating technology to control it remotely. Creative skills involve generating ideas, imagining possibilities, designing, and planning (Create-Imagine-Design-Plan).

These six categories—remembering, understanding, applying, analysing, evaluating, and creating—are crucial in various contexts. To help remember them, consider this example: Think of preparing a curry, an essential part of most daily lives. To make curry, one needs to remember the ingredients, identify their applications, and follow a unique procedure. Evaluating the outcome through taste and texture ensures an excellent result. Additionally, creativity can come into play by adding new ingredients for a different taste.

Another example is discussing family members. Remembering their names is the first step, followed by understanding their individual characteristics. Then one can evaluate their skills and determine the right person for a specific task. This process exemplifies the importance of cognitive skills.

Affective Domain skills

Moving on to the Affective Domain skills, they are related to feelings, values, appreciation, motivations, and attitudes. It is worth mentioning that the lack of these activities in the education system might be one of the reasons why students are losing their emotions and sometimes even their feelings. Students are constantly engaged with the mechanical aspects of the system, which could be a contributing factor. To address this, it is important to incorporate group activities where students can learn how to accept, respond, interact as team members, identify certain things, motivate others, and draw inspiration from their peers. Unfortunately, this aspect is often overlooked in the education system.

The Affective Domain refers to people's emotional reactions and their ability to empathize with other living beings, experiencing their pain or joy. Generally, the Affective Domain consists of five levels, ranging from the lowest to the highest. The first level is Receiving, where students must actively listen to the information being provided. Without listening, decision-making becomes futile and lacks value. Paying attention is crucial for learning to occur. The second level is Responding, where students react in some way to the received information. The

third level is Valuing, where students attribute worth to the knowledge they have acquired. The fourth level is Organizing, where students relate and elaborate on what they have learned. Finally, the fifth level is Characterizing, where students summarize the information. By following these five steps, one can become an excellent and extraordinary individual in society.

Psychomotor Domain

Moving on to the Psychomotor Domain, it involves the ability to physically manipulate tools or instruments, such as using hands or hammers. In the present scenario, even when staying at home, it is essential to know how to transport items from one place to another. Without physical fitness, this task becomes challenging. Therefore, students should be encouraged to participate in various activities like cultural and sports activities. These activities develop physical skills such as movement, coordination, manipulation, grace, and strength, as seen in tug-of-war and football. This provides another platform for gaining a specific set of skills, including how to work effectively as a member in a group.

Q1) A newly married person is aggressive in his family and does not know the family ethics: This person needs in

A) Cognitive domain
B) Psychomotor domain
C) Affective domain
D) Higher order thinking skills

Now, a question shall be presented (Refer Q1). The question is as follows: “A newly married person is aggressive in their family and lacks knowledge of family ethics. What kind of skill does this person need?” The answer options are as follows: A) cognitive domain, B) psychomotor domain, C) affective domain, D) higher-order thinking skills. The correct answer is C, the affective domain. This domain is of utmost importance for maintaining a harmonious position within a group.

Unfortunately, this aspect is often missing from the education system, and as a result, diverse issues are increasing daily.

Q2) All mothers are having ---------
A) Cognitive skills
B) Affective Domain
C) Psychomotor Domain
D) All of the above

Moving on to the second question (Refer Q2): “All mothers are having ___. As one knows, being a mother implies having a certain kind of experience with one's children. It means that in order to take care of their children, mothers must possess a specific skill set. Without this skill set, they would not be able to fulfil their role as a mother. So, which answer is correct for this question: Cognitive skills, Affective Domain, Psychomotor Domain, or All of the Above? Cognitive skills are relevant purely to academic or subject-oriented aspects, while the Affective Domain is related to feelings and emotions. Hence, the correct answer for this question is D)”All of the Above.” All mothers may or may not have an educational background, but women can become a mother regardless of their education. Therefore, the right answer is that All mothers are having emotions, as without emotions, they would not be able to care for their children, even if they are uneducated.

Q3) How many brothers and sisters do you have?

Moving on to another question (Refer Q3): “How many brothers and sisters do we have?” This question falls into which category among the Cognitive skills? There are six categories: remembering, understanding, applying, analysing, evaluating, and creating. So, which category does this question belong to? This question falls under the category of remembering. Similarly, questions like “What is your date of birth?” also fall into the remembering category. Questions that ask about the quantity of items in your home, such as “How many tables are there in our home?” also fall under the remembering category.

Q4) Rahul said “This girl is the wife of my father”. How is Rahul related to that girl?

Consider the question (Refer Q4): Rahul said, “This girl is the wife of my father.” How is Rahul related to that girl? And to which category does this situation belong: remembering, understanding, applying, analysing, evaluating, or creating? To determine the relationship between Rahul and the girl, one needs to apply a certain cognitive skill. Should remembering, understanding, applying, analyzing, evaluating, or creating be used here? In order to find the relationship, one need to analyse the information provided. This requires considering the individuals involved and determining their relationship. Therefore, the cognitive skill required in this case is analysing.

Q 5) Which of the following cognitive verbs are used to analyze information given?

A) Classify
B) Differentiate
C) Define
D) Recognize

Next question (Refer Q5): “Which of the following cognitive works are used to analyse information given?” Analysing the information involves making judgments and taking actions based on the available data. Therefore, the correct answer for this question is differentiating.

Q6) Which of the following cognitive verbs are used to evaluate the information given?

A) Classify
B) Differentiate
C) Recognize
D) Judge

The Question 6: “Which cognitive verbs are used to evaluate the given information?” Let's say there is one person who gets arrested and goes to court. In that scenario, a decision needs to be made about him. Is he a genuine or fake person? What kind of skill does one need to apply in order to determine this? That skill is evaluation. Evaluation, in this context, means either classifying, differentiating, recognizing, or making a judgment. By evaluating, one will make a judgment. Therefore, the correct answer to this question is Judgment (answer D).

Q7) Which of the following cognitive verbs are used to find the solution for the problem given?

A) solve
B) differentiate
C) Judge
D) recognize

Moving on to the next question (Refer Q7): “Which of the following cognitive verbs are used to find the solution for the given problem?” Suppose there is a problem, and one wants to find a solution. How is that solution found? Is it by solving, differentiating, judging, or recognizing? Without solving the problem, one won't be able to find the solution. The answer is Solving.

Q8) Which of the following cognitive verbs are used to apply for the selection of best partner among the five familiar members?

A) Applying
B) Creative
C) Analysing
D) Evaluating

Next (Refer Q8), “which cognitive verbs are used to select the best partner among five familiar members?” Imagine five people, and one wants to select the right person for a lifestyle management system that spans 100 years. Which cognitive skill

is appropriate for identifying the best partner? Is it applying, creating, analysing, or evaluating? Which cognitive skill is the right one for finding the best partner among the five familiar members? In that case, the procedure adopted for finding the best person for a lifestyle management system involves applying or analysing. This is highly important in human lives. Therefore, the answer is D.

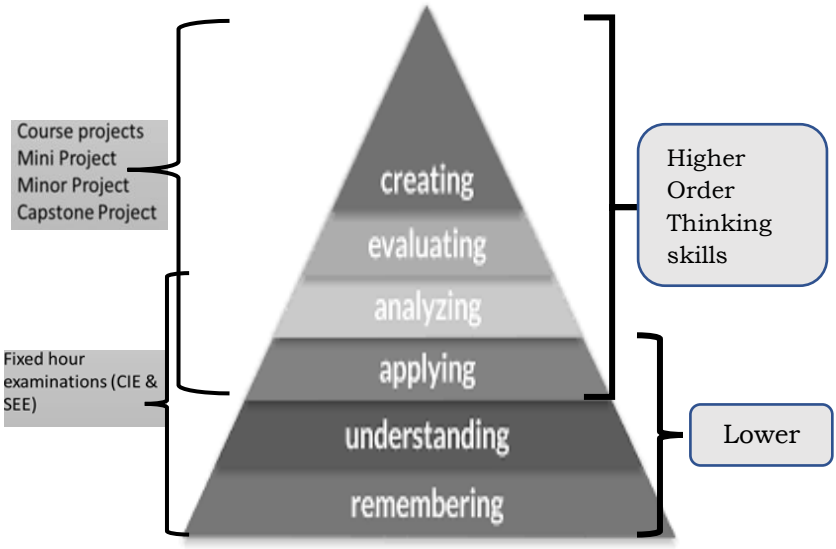

Figure 1: Cognitive skills

Based on Literature, the same is divided into two categories: Lower Order Thinking Skills (Remembering, Understanding, and Applying) and Higher Order Thinking Skills (Applying, Analysing, Evaluating, and Creating). It will be discussed below as to why these categories are divided and provide examples. There are two types of evaluation processes: fixed-hour examinations, and flexible timing activities such as assignments, case studies, projects, etc. When selecting the process, it is crucial to determine whether to focus on the lower or higher order skills. For fixed-hour examinations, it is advisable to focus on the bottom four skills: remembering, understanding, applying, and analysing. This is because there

is limited time available (three hours), and it is not feasible to engage in evaluation and finding better solutions. For other activities like coursework, projects, mini-projects, minor projects, capstone projects, or case studies, one can design questions that target specific hierarchical skills. In those activities, there may be focus on higher order skills. While setting the question paper, it is important to differentiate between a fixed-hour examination and an examination with more time available (e.g., 24, 48, or 54 hours). The selection of questions should align with the examination type, choosing from the bottom four or top four skills. Additionally, the focus on lower order thinking skills and higher order thinking skills differs in UG programs, PG programs, and research programs. In UG programs, the emphasis is on lower order thinking skills (approx. 50-65% of the syllabus), while higher order thinking skills have less priority. For PG programs, the focus shifts, with approx. 35-50% on lower order thinking skills and approx. 50-65% on higher order thinking skills. In the case of research PhD programs, the emphasis is on 100% higher order thinking skills. It is important to differentiate the curriculum design for UG, PG, and research programs based on this approach, rather than just categorizing them as basic or advanced courses. Additionally, a certain percentage (Approx. 5-15%) of courses should be dedicated to affective domain skills and psychomotor skills. Previously, there were mandatory courses such as group activities, cultural activities, and sports activities. However, these have been transformed into additional courses, and it is crucial to make them mandatory to bring about a change in the system and society.

Course Objectives and Course Outcomes

Before formulating the course outcomes, it is essential to understand the difference between knowledge and skill. A course outcome statement consists of several components, with knowledge and skills playing a crucial role. Knowledge refers to theoretical or practical understanding of the subject. Reading an article will provide you with knowledge. On the other hand, skills are the practical ability to apply knowledge to specific

situations. It is important to be able to apply acquired knowledge to relevant situations. If knowledge cannot be applied effectively, then the individual lacks the skill. Trial and error method is often used when facing situations where a specific solution is not available. However, appropriate selection in trial and error is based on prior experience. Through experience, knowledge increases, while skills improve through practice. Consider the example of baking a cake. Knowing how to bake a cake is knowledge, but the ability to cook it effectively is a skill. It is important to understand this difference. All educated individuals may or may not possess skills.

Consider an example: Mr. Sachin Tendulkar has extensive knowledge about cricket. Does he possess knowledge, skill, knowledge and skill, or none? The correct answer is knowledge and skill.

Model questions are based on Bloom's Taxonomy. How would life be different if there were no electricity? Does one need to apply, evaluate, create, or analyse? The correct answer is creative because everyone has their own thoughts, and they can express them creatively.

Regarding film story writing and novel writing, what kind of skill is required? Is it Remembering & Creative, Applying & Creative, Creative & Analysis, or Creative & Creative? The right answer among these four is Creative. For film story writing, the skill required is creative, as it is necessary to attract the audience. The same applies to novel writing, where the aim is to engage and captivate readers. Therefore, for both film story writing and novel writing, the required skill is creative.

Exploring the difference between course objectives and course outcomes before delving into writing course outcomes is imperative. This distinction needs to be understood. Different university curricula may include both course objectives and course outcomes, while others may only include course outcomes. By differentiating these two aspects, one can

determine the reason behind their inclusion or exclusion. Afterward, one can proceed with writing course outcomes.

So, there are Course Objectives and Course Outcomes. Course objectives represent input, while course outcomes represent output. But what is meant by input and output? In the traditional education system, the focus is often on the curriculum and instruction, and faculty are asked about the completion of syllabus. This is the process in traditional education. However, in the modern education system, known as outcome-based education, teachers need to emphasize application and higher-order learning skills. This aligns with what was discussed in Bloom's Taxonomy, which encompasses skills like application, analysis, evaluation, and creation. This is the essence of higher-order learning skills.

Now, consider an example of course objectives: “Students will be able to understand the concepts of X and Y.” That's the objective. However, why should students understand X and Y? What is the purpose of this understanding if there are no outcomes? If students cannot appropriately apply their knowledge of X and Y to relevant situations, then what is the value of their education? This is where outcomes come into play. An outcome could be: “Students will be able to understand the concepts of X and Y and choose the appropriate concept for a given domain.” This outcome demonstrates the practical application of understanding X and Y. By comparing these two statements, one can identify the differentiation and understand why course objectives may or may not be included in a curriculum.

When designing a curriculum, some universities may only include course outcomes, while others may include both course objectives and course outcomes. This distinction should be noted (Figure 2). To reiterate, in the statement “Students will be able to understand the concepts of X and Y,” there is an objective. On the other hand, the course outcome is when students can select the appropriate method for a given situation. This implies that understanding X and Y is necessary

for making such a choice. Therefore, objectives are implicit. When preparing the curriculum, it suffices to include only course outcomes without explicitly stating the course objectives. This is because the objectives are implied. Without understanding X and Y, students cannot select the appropriate concept for their specific situation. This is what an outcome signifies – the ability to choose the appropriate solution for a given context."

Now, it is fitting to address the next question. Which of the following options is relevant to the course objective? Is it just feedback collection, or feedback collected and analysed, or feedback collected, analysed, and an action plan developed for improvement, or none of these? Which option is the correct answer? Which one aligns with the course objective? The right answer is feedback collection. The student must also possess the ability to choose the appropriate concept for a given situation. This is what a course outcome represents—the practical application.

Now, regarding this question, which option is the correct answer? The answer is "Just Feedback Collection" is not the right choice. Simply collecting feedback is not enough. One needs to utilize the feedback to achieve a real outcome.

Coming to the next question, which of the following options is more relevant to a course outcome? Is it just feedback collection, or feedback collected and analysed, or feedback collected, analysed, and an action plan developed for improvement, or none of these? Usually, one collects feedback, but often it is not used properly. However, based on observations in outcome-based education, it is necessary to collect feedback, analyse it, and then develop an action plan for improvement. That is the true outcome. That is what a real outcome entails. So, which option is the correct answer? The answer is feedback collected, analysed, and an action plan developed for improvement. This illustrates the difference between course objectives and course outcomes.

Now, does one need to consider both objectives and outcomes, or should they focus solely on course outcomes?

Course Objectives Vs. Course Outcomes	
Course Objectives	**Course Outcomes**
Input	Output
Focus on Curriculum and Instruction.	Focus on application and Higher order learning skills.
Students will be able to understand the concepts of X and Y.	**Students will be able to understand the concepts of X and Y and** choose suitable concept **for respective domain.**

Figure 2: Course Objectives vs. Course Outcomes

It is relevant to revisit the statement: "Students will be able to understand the concepts of X and Y." This is the fundamental objective. Now, consider the next statement: "Students will be able to understand the concepts of X and Y and choose a suitable concept for the respective domain." To illustrate this, take another example. Suppose one needs to travel to a destination approximately 300 kilometres away. In such a scenario, they have four transportation options: a cycle, a bike, a car, and a bus. To make the right choice for their journey, they need to analyse factors such as the travel duration. Without understanding the pros and cons of each mode of transport, they won't be able to make an informed decision. The objective is implied in this case. Based on this perspective, focusing on course outcomes alone may be suggested. Course objectives are encompassed within course outcomes. Therefore, there is only need course outcomes.

Moving on, which of the following options is more relevant to a course outcome? Should a student simply have knowledge of sorting techniques? Or should a student be able to implement

and choose the appropriate sorting technique for given information? Or should a student only be able to implement sorting techniques without the ability to choose? Or is the answer none of these? If there are multiple techniques, the student must be capable of selecting the most suitable one for the given context. Possessing this skill characterizes a true outcome-based education (OBE) student. Regarding this question, the answer is B.

Now, who is responsible for formulating the course outcomes? Is it the subject teacher alone? Relying solely on an individual subject teacher may not yield optimal results. Therefore, it is advisable to form a group. Within any department, there may be around 20 faculty members, some of whom have expertise in insurance, while others are knowledgeable about intellectual property. They can be divided them into as many subgroups as possible based on their areas of expertise. Together, these groups can conduct brainstorming sessions and generate valuable insights. Generally, it is believed that group outcomes are superior to individual outcomes, as per the principles of law. One can choose any suitable term for this group, such as the Course Experts Group based on my experience. Firstly, define the functions of the Course Experts Group: this committee reviews course outcomes, maps course outcomes to program outcomes, identifies curriculum gaps, conducts course exit surveys, and suggests improvement measures etc. Clearly, outline these functions and determine the members based on their relevant expertise.

Additionally, consider the aspects that the expert committee should review course outcomes across all courses, result analysis, achievement of course outcomes, identification of curriculum gaps, feedback from mentors (if applicable), suggestions from faculty (if applicable), suggestions from students (if applicable), action plans for improvement, and corrective measures, among others.

This information is crucial for making the final decision. The minutes of the Course Experts Group/Committee are forwarded

to the higher-level committee, the Program Assessment Committee. As it may be known, colleges offer numerous programs, each comprising several courses. Therefore, there are multiple courses and corresponding course expert groups. The frequency of meetings depends on their evaluation processes. One can determine the number of Course Experts Group meetings based on the start, middle, and end of the semester. If there are two internal examinations, hold three meetings. If there is only one internal examination, adjust the schedule accordingly. The main agenda of these meetings should focus on result evaluation, suggestions, progress review, and performance evaluation. It is important to establish a well-defined structure.

This group is responsible for developing course outcomes. Designing them as a group is more effective than relying on individuals. Now, to address the topic of "Student Learning Outcome" and how to develop course outcomes. Examine the nature of competency: the entire curriculum emphasizes three dimensions, which are knowledge, skills, and attitudes. Some students may excel in knowledge but lack proficiency in the remaining areas. There are various possible combinations based on their strengths and weaknesses. These combinations enable students to thrive in society. The curriculum consists of theoretical courses, practical courses, and activities that foster emotional development, among others.

One may be familiar with terms such as program outcomes, course outcomes, curriculum design, teaching, and learning. These aspects form a triangular process and should not be viewed individually. It is crucial to consider all these parameters when designing course outcomes.

Student Learning Outcomes

Student Learning Outcomes ("SLO") can be at the course level, program level, or any other predetermined level. The college is divided into multiple programs, each of which comprises numerous courses like insurance, intellectual property, etc. At the course level, student learning outcomes are more specific

and describe the expected achievements in a particular course. The vision for a student is to reach a certain position in five or ten years, with admission serving as a platform to achieve that vision. Program outcomes, on the other hand, are broader statements and are further divided into several sub-components, which are the course outcomes. Course outcomes provide more specific information. This is the process of the Outcome-Based Assessment ("OBA") system: vision, mission, program outcomes, and course outcomes. Therefore, course outcomes should be specific and free from ambiguity. They describe the expected achievements in a particular course and can be expressed as knowledge, abilities/skills, attitudes, or values. When writing outcomes, it is important to keep in mind these three components: knowledge, skill, and attitude. These components can be combined in various ways, resulting in different combinations. The course outcome is a statement, typically expressed as a sentence. A statement is either true or false but not both. Ambiguity should be avoided. In legal documentation, ambiguity can lead to different interpretations by different parties, which is not desirable. Therefore, when defining documentation, it is crucial to consider that a statement is a sentence that is either true or false but not both. Certain components are required in the statement: an action verb, subject content, and level of achievement. The action verb should be specific and indicate a particular action. Remembering, understanding, applying, analysing, evaluating, and creating are commonly used verbs, but you can also use your own terms as long as they convey a similar meaning. Subject content refers to the specific topic or subject matter. The level of achievement adds specificity, ranging from basic to proficient or advanced levels.

The characteristics of Student Learning Outcomes ("SLOs") should align with program outcomes, meaning that course outcomes must be in line with the program outcomes. SLOs need to be student-centric and cognitively appropriate, which were commented upon in the previous sections. Cognitively appropriate means that SLOs should be relevant to the cognitive processes of remembering, understanding, applying, analysing,

evaluating, or creating. The next set of characteristics include being measurable, meaningful, understandable, achievable, realistic, specific, action-oriented, and manageable. These characteristics define the nature of SLOs.

Now, to delve into the characteristics of SLOs. A learning outcome is a measurable, observable, and specific statement that clearly indicates what a student should know and be able to do at the end of a course. The most important aspect of the same is what the student can do at the end of the course. A well-written learning outcome consists of an action verb, subject content, level of achievement, and condition of performance. Consider an example from the Mahabharat epic. In archery, both Arjuna and Karna are excellent, but Arjuna surpasses Karna because Arjuna satisfies all four components, including the performance condition, whereas Karna fulfils only the first three. Both are good, but Arjuna is on another level as compared to Karna.

Consider an example of a course outcome statement: “Analysing Risk Management Strategies for Investment and Insurance Decisions.” One needs to identify the action verb, subject content, and level of achievement in this statement. If the outcome satisfies all three properties, it is a course outcome. In this case, the action verb is “analysing,” the subject content is “risk management strategies,” and the level of achievement is “investment and insurance decisions.” Therefore, this course outcome statement fulfils the three properties and can be considered specific and acceptable.

Sometimes, the same statement can be written differently. For example, the statement “Analysis risk management strategies” is poor because it doesn't include the level of achievement.

Consider another outcome statement: “Create a set of assessment criteria and define the threshold level for a task in your module or course.” There needs to be identification of the action verb, subject content, level of achievement, and condition of performance in this statement. The action verb is “create,” the

subject content is “a set of assessment criteria and define the threshold level,” and the level of achievement is “the task in your module or course.” This statement satisfies all three properties and can be considered acceptable.

While reviewing different outcome statements, some may be vague, while others may be more specific. It's important to remember that a statement should be a sentence that is either true or false but not both, and it should avoid ambiguity. It should not be framed as a question. Some examples are discussed below, which can be rated on a scale of 1 to 5 based on their acceptability, and to the extent which the statement satisfies the identified properties.

To better understand this, consider an example: “Students will be able to use Excel.” This is a statement because it lacks ambiguity. However, when evaluating it against the three properties (action verb, subject content, and level of achievement), it only satisfies the first two. Therefore, it is an acceptable statement with a rating of 2 approximately. Similarly, the statement can be modified to enhance its acceptability strongly or moderately acceptable. For example: “Given a sample dataset, students will use Excel to create a spreadsheet that incorporates simple mathematical formulas.” This rewritten statement includes the third property (level of achievement) and may receive a higher rating from evaluators due to its stronger acceptability.

Consider another example: “Students will analyse global political systems.” When this statement is read, there is no doubt that it is a statement, and it lacks ambiguity. The first property is the action verb. Analyse is the action verb. The next property is the subject content, which is global political systems. However, this statement does not satisfy the level of achievement. Therefore, it can be said that this statement is also acceptable with a rating of 2, as it only satisfies the action verb and subject content properties.

This statement can be rewritten as: "Students will analyse 20th-century western democracies and the responsibilities of citizens in those democracies." Here, the statement becomes more specific. However, there are still certain ambiguities, such as the exact range of years within the 20th century. Minimizing such ambiguities is important when writing course outcomes. Even when working on a Ph.D. or Doctor of Philosophy and defining the title of a thesis or project, it is necessary to satisfy all these properties: action verb, subject content, and level of achievement.

1. Illustrate law relating to copyright In India.
2. Distinguish between various intellectual properties like Copyright, Trademark and Patent.
3. Outline Registration Process relating to Intellectual Property.
4. Explain modes of Infringement and remedies which are available in the Act.

Figure 3: Intellectual Property Law

When writing a course outcome, it is essential to consider the properties: action verb, subject content, and level of achievement. If even more specificity is desired, one can add a condition of performance. Below is an example relevant to intellectual property law (Figure 3).

It is now relevant to check whether these statements satisfy the properties discussed and determine the rating. The rating is based on the first, second, third, and fourth properties. It is useful to remember that a statement is a sentence that is either true or false but not both.

The first statement to be analysed: "Illustrate law relating to copyright in India." This statement satisfies only two properties. Next, "Distinguish between various intellectual properties like copyright, trademark, and patent." However, it appears to be in

the form of a question. A statement should not be a question; rather, questions should be extracted from the statements or course outcomes. This is the essence of the OBA scenario. Just like in a courtroom, where parties present their statements and then engage in debate based on those statements, questions are derived from the statements or course outcomes.

Next, consider: "Outline the registration process in relation to intellectual property" and "Explain modes of infringement and remedies which are available in the Act." The word "explain" implies an action, but it is important to avoid using such verbs that make the statement sound like a question. When reading these statements, they feel more like questions than statements. It is crucial to understand the difference between a question and a statement in order to make informed decisions. Using such verbs when framing course outcomes should be avoided. A course outcome is a statement, not a question.

Consider another example in insurance law. Analyse the statements below and determine whether they are questions or statements. Firstly, "Discuss the fundamental principles of insurance law." Next, "Summarize Indian insurance law in general." Lastly, "Explain the new dimensions in insurance schemes." Based on the prevalent understanding, this statement also appears to be more of a question than a statement. It is important to avoid using such verbs that give the impression of questioning while writing or framing course outcomes.

One can observe the pattern of a question paper (Figure 4), which includes question numbers and the corresponding questions. For instance, "Write a C program for linear search." In the third column, the marks have been allotted. Moving on to the next column, there are have the course outcome numbers. In the entire curriculum syllabus, there may be five or six modules. The syllabus may consist of five modules. In that case, there can be five course outcomes, corresponding to each unit or module. However, there may be instances where it is not feasible to define course outcomes based on unit or module

divisions or logical connectivity among the modules. The reason behind this could be that the units may be independent or have logical connectivity. This aspect of logical connectivity is crucial to consider.

Q. No.	**Questions**	**Marks**	**CO#**	**BL**
1.	Write a C program for linear search? Explain quick sort with the help of suitable example?	5	CO1	L3
2.	Analyze the worst case time complexity for Quick sort Figure 4: Bloom's model paper	5	CO 2	L4

Figure 4

Before concluding, there needs to be a determination of the number of statements to be defined. Should statements be written based on the units or modules in the syllabus? To address this, one needs to go through the syllabus unit by unit or module by module. As one goes through the syllabus, they should also identify if there is any logical connectivity among the modules. This means examining whether understanding a particular module requires prerequisite knowledge. In cases where prerequisites are necessary, there can be combination of Module 1 with Module 2 which can subsequently generate one or two statements.

The same is better understood with the help of an example. Imagine a scenario where a grandson has written a letter to his grandfather. When you receive the letter, how would a person convey the information to the grandfather, who may not have too much patience? Would the person read the letter word-by-word or summarize the message in a few sentences? Similarly,

when framing course outcomes for a curriculum, one needs to apply a similar approach. However, it may or may not always be possible to go module-wise.

The concepts of remembering, understanding, applying, analyzing, evaluating, and creating have been discussed previously. In the example mentioned above, L3 represents applying. Therefore, this question is relevant to the application, which aligns with the first-course outcome (CO1). From CO1, multiple questions can be derived, following the guidelines of Bloom's Taxonomy.

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PROFESSIONAL DEVELOPMENT AND SKILL BUILDING TECHNIQUES

Prof. (Dr.) Pradeep Kulshrestha*

Introduction

Law is a professional education that has contributed immensely to attaining social, economic, and political justice in India. The profession signifies a domain of systematic conduct by virtue of some academic activity which is governed by rules and regulations prescribed by a regulatory body. These prescribed norms regulate individual conduct for public good and natural well-being. Professional development in legal education *inter alia* involves capacity building of the faculty. The profession's objective also includes self-satisfaction and ensuring '*sarve bhavantu sukhnah sarve santu niramaya*'.

Choosing one's profession wisely goes a long way in ensuring the well-being of the profession, society as well as the individual. Therefore, one must exercise due care while choosing a profession. There is a concept called *ikigai*. It is a Japanese term that means 'know your calling' i.e., following one's heart or following the area where one's interest lies. When a person practices a profession that suits their interests it is helpful. However, sometimes one discovers their *ikigai* at a later stage whereas some discover their interest area at a very early stage. They recognise what they want from life and follow their dreams.

There is a huge change now in that people no longer keep Law as their last option but as a first one and dream profession. Therefore, after Medicine and Engineering, Law is in good demand and that is a welcome change. The legal profession is a noble profession and as countries' economies grow faster, they will require more and more advocates, teachers, and judges.

* Dean, School of Law, Bennett University, Greater Noida.

A profession requires three main traits which are very important- knowledge, attitude and skill sets. If one has knowledge but cannot communicate that in a courtroom or classroom, that will create an obstacle. Therefore, to ensure learning with knowledge there should be required skill sets, such as communication skills, writing skills, oratory skills, and the right attitude accompanying it. So, if somebody has knowledge and a skill set but a bad attitude, it would be problematic. Not being able to work in a team would also lead to issues. Any good professional should have K.S.A. i.e., knowledge, skill sets, and attitude to succeed in that legal profession. Ancient Indian wisdom emphasises upon *gyanmarg*, *bhaktimarg*, and *karammarg* as methods to achieve one's life goals. So, any profession demands sound knowledge, skill sets and attitude as necessary requisites. In order to gain knowledge, one should be a voracious reader which can be, to start with, reading anything one can get one's hands on.

The Bar Council of India regulates legal education in India and prescribes a minimum syllabus but a Law School can go beyond the minimum. This is one requirement that can be followed in letter and spirit to scale up knowledge acquisition. Secondly, under *bhaktimarg* one has to earn knowledge and unless devotion is there, wisdom will not come. Devotion may include finding the right mentor. So, if one has the right mentor a lot of their academic queries can be settled. Therefore, mentoring is very important and if a student gets a good mentor- a teacher, a good advocate or a lawyer, that helps. And next is *karammarg* which comes after gaining knowledge of the law. To improve skills, one has to get on track and work. So, in this *gyan*, bhakti and karma come handy.

The Constitution of India and the preambular declarations start with the very famous words, 'We the people of India.' It talks about the source of the Constitution. We, the people of India, are the sovereign; we are the source of this Constitution. It provides for the forms of government: the government shall be sovereign, socialist, secular, and democratic. And it provides for certain rights which people will get. So, it speaks of justice—

social, economic, and political—and liberty of thought, expression, faith, belief and worship. It also provides for equality of status and opportunity and provides for the sovereignty and integrity of the nation. And lastly, it provides for the Enactment Clause that provides for the enactment and adoption of the Constitution. So, law professionals should always keep this cardinal declaration in mind.

If a person is in need of legal aid, then law students and law teachers should make all efforts to ensure that, that person or group is given help at the right time, and that is the reason every law school is mandated to have a free legal aid centre wherein there are paralegal volunteers too. The paralegal volunteers work in tandem with the District Legal Services Authority to ensure that free legal aid is available to people who cannot afford it.

In the Indian Constitution, the fundamental rights are enshrined from Article 12 to Article 32, providing for the basic rights of human beings and they have been largely inspired by the Bill of Rights of the US. In 1945, the United Nations declared the Universal Declaration of Human Rights, declaring all human rights for all. Law is an instrument of social change ensuring Justice, Liberty, Equality and Fraternity.

Whereas fundamental rights are available against the State, directive principles are non-enforceable important directions to the State. Articles 38 and 39 *inter alia*, provide for an inclusive society. Articles 41, 45 and 46 deal with directions related to work, education and welfare of the disadvantageous section of society. Right to education is one of the fundamental rights. When people are educated, they can contribute meaningfully to the well-being of the country.

Fundamental duties were not part of the Constitution when the Constitution of India came into being; they were added subsequently by the 42nd Amendment in 1976. The Swarna Singh committee recommended ten fundamental duties. Another was subsequently added by the 86th Constitutional

Amendment in 2002. Now there are a total of 11 duties under Article 51A of the Indian Constitution.

From ancient times, we have been in a duty-bound society. Non-citizens have been excluded from abiding by fundamental duties laid down in the Constitution. If one keeps these fundamental duties in mind, then professionalism will automatically come in as it *inter alia* provides for excellence in both individual and collective endeavours.

Some of the fundamental duties are to cherish and follow the novel ideas that inspired our national struggle for freedom; to uphold and protect the sovereignty, unity, and integrity of India; to defend the country and render national service when called upon to do so; and to promote harmony and a spirit of common brotherhood amongst all the people of India transcending religious, linguistic, and regional sectional diversities; to denounce practises derivative of women; to value and preserve the rich heritage of our compound, composite culture; to protect and improve the natural environment including forests, lakes, rivers, wildlife, and have compassion for living creatures. This is also very important to develop a scientific temper, humanism, and a spirit of inquiry and reform. So, this is a fundamental duty that asks all of us to strive for excellence in individual as well as collective activities. So that the nation constantly rises to higher levels of achievement and ensures access to education for children, the 86th Amendment was added. This states that a parent or guardian is to provide opportunities for education to his child or ward, as the case may be, between the ages of 6 and 14 years. So, these 11 fundamental duties are very important, comprehensive and elaborate.

Diversity, equity, and inclusivity are a hallmark of Indian society. So, dignity should be provided to the people so that they feel that they are all one and there is no difference or discrimination. Knowledge is all-encompassing and it is manifested whenever new laws are enacted or old laws are amended. And with the advent of AI, future possibilities seem very exciting. However, I am sure artificial intelligence will

remain artificial intelligence. It will not overtake human intelligence.

It needs to be ensured that whenever there is an opportunity, new things are learned and shared through classroom study. To engage young learners, the case-based study method is the best since topics become easy to understand. However, the prerequisite for the case study method is that students should come prepared to class. Otherwise, there is a chance of the faculty being too fast and not discussing the provisions of the law- the job of the teacher becomes a little daunting.

So, whenever faculty development programmes and refresher courses are attended, a lot of new knowledge and skills are required. Also, as per the National Assessment and Accreditation Council's (NAAC) requirement, every faculty member should attend a Faculty Development Programme (FDP). Here I wish to add that we need to abreast ourselves with new accreditation requirements, like NAAC, NIRF and QS Ranking, because they are very good and they are making systems very competitive.

Outcome Based Education

The concept of OBE (outcome-based education) is a new thing for some but law was already an outcome-based education and there were already internships in law. Law is a very interesting, dynamic and outcome-based field already. Also, a very strong alumni network, which can feel connected with the institution and can play an important role.

In many top-level institutions, students contribute a lot to the value of the institution; they come up with the required endowment funds, which is very encouraging. There are primarily four main stakeholders: students, faculty, alumni, and employers. These four are very important stakeholders and they should work in conjunction so that world-class institutions can be built. World-class institutions will not happen overnight, they have to be built with the collaboration of all the stakeholders.

Teaching is a noble profession but it is not on the top priority list of the students. But the right minds to join teaching as a profession are needed because unless there are good teachers, the profession will certainly suffer. Teaching can be a career option as it is very competitive and offers a very bright future.

There should be more emphasis on organising seminars, conferences, guest lectures, workshops, colloquiums, and online sessions because they are platforms for knowledge sharing and knowledge creation, both of which are very important.

Multidisciplinary Approach

Research in law is one of the areas where we can improve, especially empirical research, wherein we go to the field and talk to the people. As a multidisciplinary approach, collaboration with other disciplines should be encouraged because the five-year law programme was initially conceived with a very integrated approach like, in B.A.LL.B. there are non-law subjects *viz.* political science, sociology, history, and economics that should be taught with the flavour of law but somehow, it is seen that the much-needed integration is lacking. The courses are taught *in silos.* For example, when a faculty member teaches economics, the economic impact of legislation and vice versa should be discussed. With these integrated approaches, multi-disciplinary research can take place.

There is a need to develop academic leadership skills too because there are 25+ National Law Universities and a lot of other good institutions coming up. They will need senior and middle-level faculty as well as capable people required to lead these institutions. So, how does one develop these skills? They must seek feedback from their peers, seniors, juniors, and take it constructively and keep on improving.

Time management is also one of the areas where priorities need to be set. The easiest way to do this is to list out the activities that are important and urgent. So maybe if somebody has a class at nine o'clock, that class is both important and urgent.

But if somebody has to go to the gym when there's an exam, the timing can be shifted or postponed. So, even if something is important and urgent, the focus should be on a balanced approach.

Mentor-Mentee Relation

In academics, classrooms and examinations are important and urgent. However, health is also one of the most important things because if one is not enjoying good health, they cannot reach their potential. Then, the mentor-mentee relations also play an important role in shaping both the taught and the teacher. A teacher is allocated certain student mentees and they remain continuously in touch with each other. So, if students get good mentoring, their knowledge curve improves substantially. Similarly, if a teacher finds a good mentee, they also develop into good professionals. So, a lot of emphasis on mentor-mentee relationships should be placed.

Whenever somebody is listening, it improves their listening abilities. In Mahabharat, Krishna was giving lessons to Arjuna and written notes were exchanged. This is based on Shrutis and this is important because Shruti-based learning is interactive and listening to others' ideas is very powerful. In today's tech era, many powerful IT tools have come up including chat-GPT. They can be used if somebody wants but they should not be blindly trusted. You can take help from these tools but you need to refine them as per your needs and there should not be intellectual dishonesty.

Skill Development

Then we come to skill development. Knowledge, skill and attitude are important. A skill means the ability to do something well with precision. Time management remains a big issue, especially for law teachers, because nowadays law teachers are into many things. They're teaching, organising conferences and also doing administrative work and in that process, somehow they don't get sufficient time to devote to their hobbies or their area of research.

Decision making Skill

One needs to develop decision-making skills because nowadays one has to make many decisions and there are various options available. Problem-solving skills are also important because one is confronted with issues and problems every day. So, while problem-solving, one needs to identify the problem, know the cause of the problem, find alternative ways and means, discuss them with the stakeholders, select the best and implement that.

Management Skill

Then management skills are very important for a law professional whether a teacher, a law firm associate or an advocate. In management, there is a very famous theory called 'POSCORB' theory that says you plan things, organize them, staff them, we need people to implement things, and then coordinate and then budget because everything you need expenses for. So, I am discussing certain skills a professional should have because this was a topic that was given to me: professional development and skill-building techniques.

Leadership Skill

The father of the nation, Mahatma Gandhi, used to advocate that servant leadership is the best leadership. This means to feel that one is there to serve people. But there are different types of leadership, including autocratic leadership, team leadership etc. Every leadership has its own merits and demerits. The best way to learn a particular leadership style is for one to imagine the best leader they've met, try to understand leadership from them and try to emulate the best ones.

Challenges of Legal Education

Then, there are the other challenges of legal education- law teachers are not allowed to practice in India. Unlike some countries in the world like the US, where law professors are practising and teaching also elevated to judiciary. Article 124 provides for, apart from advocates and judges, eminent jurists to also be appointed as Supreme Court judges. But no one so far has been appointed in that category. So, law teachers are not

allowed to practise, and they are creating and guiding the advocates. That creates some lacuna wherein the teacher is teaching students who are going to be future law professionals when they do not have any practical exposure themselves unlike the field of medical study wherein a professor is teaching them in the morning and then is with a patient in the evening. So, learning is very comprehensive there. That is somehow missing in legal education and this should be looked into.

Students are intelligent and when they join the law programme, they are aware of a lot of tools to support them which is why they manage to cope. However, the teacher remains lacking at times as they do not have exposure to courtroom practice or the industry. That is one of the main challenges, along with the lack of institutional support. This sometimes makes a teacher willing to go abroad for two years to pursue a course. There may not be institutional policies or institutional funding to support this endeavour but now people are so much more aware. Earlier, there were few channels of communication. Now, the knowledge corpus is doubling every six months or less, making the segregation of wheat from chaff a challenge.

Earlier, things were not so fast and there weren't so many apps on the mobile. Now, they continually give you updates on what is happening. If the Court is hearing a case on same-sex marriage, we come to know what is happening in court almost on a real-time basis. So now, this is also an issue. There is so much information available that one has to deal with on social media. So somehow, we are left with very little quality time to do much more. And then for a law teacher especially, the opportunities may not be as many as in a developed economy. And then a teacher may find it very challenging to balance teaching, research, and institution building. If a teacher is not a good researcher, then one's future prospects may be compromised because Academic Performance Indicators (APIs) are needed for promotions and more.

There are certain cases where the Supreme Court of India has held that legal education is very important. In Mahipal Singh

Rana v. State of U.P.,[1] the Supreme Court observed that legal education needs to improve. So somehow legal education has remained a concern; but with National Law Universities, legal education has improved a lot. A lot of private universities are coming up that focus a lot on quality legal education. They have very good faculty, infrastructure and advisory boards. The quality is improving, but there is scope if we go to state universities.

The Bar Council of India has allowed foreign law firms to practice with a number of conditions. This is because if we want to practice outside, we need to open our doors. Also, as Gandhiji used to say, we should open windows and doors so that new ideas can come, but we should not be swept away by those ideas; we should remain firm on our feet with our own ideas.

Similarly, in Madras Bar Association v. Union of India,[2] the Supreme Court held that the BCI has the power to regulate legal education in India and stressed the need to improve the quality of legal education. The Bar Council of India regulates legal education in India under the Advocate Act, 1961.

The pendency of cases remains a daunting task for all stakeholders. There are close to five million cases pending at different levels which is a huge number. This is a huge number and, in every case, maybe five or six people are involved on average. So, if cases drag on there is an enormous challenge. People may lose faith in the system.

To tackle this pendency, a large number of courts, judges and advocates are needed. Quality legal education providers are also needed. So, we need all-around development. And for this to happen all stakeholders have to come forward so that things can improve. For example, National Law Universities have very limited infrastructure and a limited number of seats. There remains a huge gap. The gap is ordinarily filled by good private

[1] (2016) 8 SCC 335.
[2] (2014) 10 SCC 1.

and public universities. In V.C. Mishra v. Bar Council of India,[3] the Supreme Court held that law schools have a responsibility to provide quality legal education and must ensure that their curricula and teaching methods are updated regularly. The Bar Council of India provides the minimum number of courses i.e., fifty-two for an honour's degree, but many law schools in India are teaching seventy or eighty or more courses.

Artificial intelligence will play a big role in ensuring speedy justice. COVID forced most people to adopt technology. So, maybe in the next five or ten years, things will improve because Microsoft has come up with an autopilot tool that can read a document running into hundreds of pages. Suppose somebody has made an insurance claim. This auto-reader will go through the entire document and if a question is raised regarding the fatalities in this case, it will read the whole document and state whether there is a fatality in this case or not. Then, if one asks whether this case involves injuries, it will list all the injuries, and if they ask whether this claim is legally feasible, it will give them a feasibility report.

The BCI provides the minimum number of courses but one can always go over and above the BCI requirement. That will certainly improve quality of the curriculum. Some universities have not changed the courses they offer for years together but they need to update it. Every semester, teachers should sit down and discuss their curricula and if there is any overlapping or any new development, it can be added. This is a very helpful exercise as timely updated curriculum will be good and the syllabus will be regularly updated.

The classroom has to be very interactive. After COVID, some students are not able to keep their mobile in their pockets and every five minutes or ten minutes, they check if any of their friends on social media has liked any post or sent any message. This is a huge distraction in classrooms. In courtrooms, mobiles

[3] (1995) 2 SCC 584.

are not allowed. Judges do not use them, advocates do not use them, and clients are also not allowed. But in classrooms, this issue is becoming very huge even for those who are very bright. Students are not able to control themselves and, in the process, find it difficult to focus their attention for more than fifteen or twenty minutes in an hour. This is quite worrying and mentors should tell students to prioritise. The lectures need to be prioritised, as it is more important and the teacher should make lectures interesting so that students do not feel like looking at their mobiles. The classroom should be interactive and the Socratic method can be helpful in this regard. In B. Sukhdev Singh v. Bhagatram Sardar Singh Raghuvanshi,[4] it was emphasised that law students should receive high-quality education and training. Only when we have well-trained students with very good knowledge, the legal system will improve. And I am sure things are improving.

The legal profession in the last twenty or thirty years has improved a lot. At the time of independence, we had very high-calibre people joining the legal profession, including Mahatma Gandhi, Prime Minister Nehru, Sardar Patel. They were all legal people but then there was some decline subsequently but now again, things are looking up. If you read the autobiography of Mahatma Gandhi, "My Experiments with Truth", he writes that he was standing in the court for the first time and he could not speak. He was trembling with fear and he was looking at his client, wondering what the client must be thinking about him. He writes that tears started rolling down his cheeks and later he gave the client back his fees.

That was the first appearance of Mahatma Gandhi's great personality. Even today, to some extent, the situation remains the same. If a passed-out student today is asked to stand in the courtroom, he will not find it easy to argue in front of the court. We need to work on this because those were different times, and with moot courts, courtroom exercises and other initiatives,

[4] AIR 1975 SC 1331.

students can be made practice-ready in whatever profession they choose after spending five good years in a law school.

HARMONIZING TEACHING AND LEARNING: RECONCILING SCHOOLING AND EDUCATION WITH CIVILIZATIONAL DIALECTICS

Prof. (Dr.) Madhu Prabakaran*

Introduction

The contrast between schooling and education drawing it to the context of civilizational dialectics, aiming to align their goals is discussed here. Schools shape skills, while education exposes untruths towards fostering scholarly autonomy. Education, which was a humble enterprise of learning from each other, with due reverence has been scuttled by the historical transition from traditional trade to modern capitalism, which reduced the goal education from knowledge-sharing to capitalizing human potential for sustenance of modern economic hierarchy. Schooling moulds for societal roles, while education elevates the human condition and embraces novelties for progress. Schooling emphasizes measurement, towards signalling employability of the students, while education focuses on inducing self-mastery. Education involves comprehensive assessment, not just measurement, and promotes critical inquiry. The paper argues that aligning both schooling and education towards civilizational dialectics while maintaining employability is possible provided there exists a will to truth.

Schooling is Not Education

Educational institutions impart skills, knowledge, and attitudes to students through schooling, which can be considered a form of *paideia*, the ancient Greek ideal of education. The term *paideia* also alludes to the concept of play, suggesting that children should be treated with gentleness and compassion, especially during recreational activities. In other words, schooling is a form of education that aims to develop the whole child, mind and body, through a variety of pedagogical methods.

* Dean, School of Liberal Arts, IMS Unison University, Dehradun.

It is important to create a positive and supportive learning environment where students feel safe to explore and learn (D'Angour, 2013).

In premodern epochs, diverse communities fostered their own distinctive indigenous systems of education. These systems were interwoven with the cultural fabric and practices of these societies, drawing upon their collective experiences and aimed at serving their communal sustenance. The advent of colonial interpretations promoting a universal educational model cast a disparaging light upon these indigenous systems, ultimately causing their gradual decline. For example, Māori society in Aotearoa New Zealand had a holistic approach to education, where students were meticulously selected for specific roles within their communities and their unique interests and potentials were duly recognized and encouraged (McKinley et al., 2011; McKinley and Smith, 2019). Diverse indigenous communities across various regions also boasted their own distinct educational methodologies and philosophies, each intricately tied to their cultural heritage and shaped by their lived experiences.

The colonial doctrine of dominium and imperium, rooted in expansionism, property rights, entitlements, and the 'civilizing' mission, evolved over centuries to justify territorial conquest. Colonialism served vested class interests, with capitalist elites seeking labour and land access. However, cultural constraints hindered these goals, as local cultures influenced land, labour, and resource distribution. These challenges were compounded by deep-seated cultural beliefs and rituals tied to land and ancestors. To overcome these obstacles, colonial education and missionary efforts were strategically employed (Blouet, 1990; De Kock, 1958; Dei, 2010; Graeber, 2011). These societies' rich cultural tapestry necessitated clever adaptations to achieve colonial expansion's core objectives (Rayner, 1981; Ejiaga, 2003). Slave education facilitated the transition from slave labour to free labour in economies dependent on such systems. Colonial authorities also intervened in local culture to promote

access to free labour, notably through native schooling (Lowe, 2015, p. 97; Whitehead, 2007).

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Schools, distinct from education itself, have well-defined structures, embodying specific missions (Young, 2012). They serve as collective learning platforms, nurturing discipline under mentorship (Hopson, Camp-Yeakey, & Boakari, 2008). Beyond knowledge dissemination, schools aim to amalgamate knowledge to meet practical needs, empowering the public and advancing the common good. Over time, public education's noble purpose shifted towards employability and social control via operant conditioning (Hall, 2008; Richardson, 2012). Societies historically crafted educational systems to empower young minds for the benefit of future generations. However, these systems transformed, prioritizing utilitarian principles over virtue ethics, yielding to scientific justifications. Capitalism's rise and colonial conquests led to education catering to societal stratifications, conditioning children for the capitalizing class's objectives (McCulloch, 2011). Education, once driven by exercises, debates, and discussions, now

revolves around measurements and assessments (Marginson, 1990). Contemporary students face predefined benchmarks tied to employability. Education became a producer of human resources necessary for societal sustenance, emphasizing formal institutions, authorized curricula, scheduled classes, and structured environments. Behavioural psychologists turned schools into operant conditioning labs, employing disciplinary measures, rewards, and punishments to furnish minds with pertinent ideas and ensure effective functioning (Hirst, 1974). Educational methods involve standardized instructions, formal assessments, and age-graded cohorts under direct supervision. Schooling's essence centers on disciplining pupils and cultivating employability skills, making it a conduit for well-prepared individuals primed for the workforce.

True education, distinct from mere schooling (Whitehead, 1932, p. 6; Allen, 2017; Nietzsche, 1909), goes beyond simple transmission. Schools shape students into social and economic entities, rooted in operant conditioning influenced by behavioural psychology (Skinner, 1971). This conditioning, tailored for compliance with societal norms, is essentially class-specific demands manifesting in a class-stratified society. Educational institutions draw from methods used to domesticate animals, fostering ontogenetic adaptation in students (De Houwer, Barnes-Holmes, & Moors, 2013; Enquist, Lind, & Ghirlanda, 2016; Alberts, 1994). In segmented societies marked by class, caste, race, or gender distinctions, schools mold students to conform to predetermined roles, reinforcing the social hierarchy (Bourdieu & Passeron, 1977). Contrasting schooling and genuine education (Confucius, Analects ch. 15, v. 3), education dismantles class disparities, aiming for holistic development beyond inherent limitations. Schooling's outcomes should not be equated with educational accomplishments. True education questions societal norms, liberating seekers from societal pressures and nurturing subjectivity and autonomy (Marples and Roger, 1999).

Education's purpose lies in revealing truths, exposing fallacies, and examining life (Plato, Laws 644a p.39; West & Platon, 1979). Expansive and profound, it humanizes and contributes to civilization (Russel, 1977 [1932]). "Education," rooted in "edùcere" ("to lead out"), signifies erudition (Chomsky, 2003; Nola, and Irzik, 2005). It elevates the human condition, encompassing liberty, freedom, critical inquiry, and exploration of social and physical realities. Education, coupled with virtue, is invaluable (Plato, Laws. 644a–b). A lifelong pursuit, it empowers cultures to progress, shedding historical constructs, embracing dialectics' lessons, and creating new knowledge (Badiou, 2017). The youth lead, welcoming novelties challenging the status quo, tapping into human potential. Education "uncovers," leading to the emergence of humans in harmony with their potential. The narrative of education surpasses pedagogical techniques; it seeks civilizational maturity, empowering youth to guide progress and institutions to embrace civilizational challenges (Von Humboldt, Wilhelm, 2015).

Conditioning is not Learning

Behavioural psychology, including Skinner's work (1974), highlights learning as behaviour alteration through environmental stimuli, emphasizing conditioning. Evolving theories now encompass learners' intentions and experiences (Hamm, 1989; Virués-Ortega, 2006). Philosophers argue learning diverges from conditioning. From a Jungian perspective, it involves active imagination and expanding cognitive frameworks (Jung, 1997; Van Kesteren et al., 2012). Heidegger views education as nurturing civilizational maturity, breaking existential constraints (1946). Ricoeur's hermeneutic process focuses on attentive listening and cultural signs (1970). Foucault challenges education's neutrality, exposing its role in power dynamics and truth games (Peters, 2003; Besley, 2005). Learning, distinct from conditioning, triggers civilization's essence, disrupting discursive cultures (Ruin, 1998; von Herrmann & Radloff, 2011; Crusius, 1991) and enhancing freedom (Ridling, 2001). Pinker acknowledges both innateness and conditioning in learning (2003). Conditioning extends

beyond classrooms as part of governmentality (Marshall, 1995). *Thirukkural*, an ancient Tamil treatise provides non-european insights on education. Thiru-valluvar's Thiru-kural (3rd BCE to 2nd century CE) emphasizes learning's purpose: transcending knowledge flaws for practical application (Kural, Verse 391). Valluvar views learning as extending beyond subjects, a collective venture unlocking wisdom (Kural, verses 398, 399). He values authentic erudition (Kural, verse 400), eradicating impurities through contemplation. This impact enriches humanity's shared intellectual heritage (Thiruvalluvar, 2021).

Learning contributes to public life and civilization (Gungwu, 2023). Nature and nurture, considering genetic endowment and cultural milieu, require embracing civilizational dialectics (Crain & Pietroski, 2001; Vighi, 2010). Education uncovers truth dialectics and engages with historical justifications (Koopman, 2008; Koopman, 2013), revealing fallacies and interests shaping subjectivity, cultural contexts, and governing mechanisms. Education, seen through the civilizational sublime, empowers learners' self-perception (Freeman, 2001). Learning embodies continuous cognitive momentum, challenging the innateness-constructivism dichotomy. Innateness holds historical momentum with opposing forces, akin to circular motion's centripetal and centrifugal forces. This biological momentum reflects evolution's essence, where actions are intricate and intentional. In the social sphere, complexities deepen due to historical beliefs and identities, encountering opposing forces. Historical ontology isn't mere accumulation but an ongoing interplay across unfolding histories. Innateness represents momentum in cognition moments, transmitted from history to potentiality, signifying dialectical advancement in civilizational learning.

Measurement is not assessment

The prevalent emphasis on measured performance has been established as a hallmark of accountability and transparency, but it has also led us to confuse hitting numerical targets with problem resolution. This fixation on metrics has transformed the educational landscape into a realm heavily influenced by

managerial control. The compulsions of measurement have redefined education into a cyclical routine of "teaching to the test," often rendering the educational process monotonous and one-dimensional. However, measuring for the mere sake of measurement falls short of providing an adequate benchmark for meaningful evaluation. As it is aptly recognized, "not everything that can be counted counts, and not everything that counts can be counted" (Muller, 2018). In contrast, the assessment of educational outcomes comprises a more comprehensive process than the mere measurement of tangible results derived from instructional methods. The assumed correlation between the two is dubious primarily because education transcends the confines of schooling, and conditioning is far from being synonymous with genuine learning.

The evaluation of educational pursuits necessitates the collection and interpretation of information, enabling informed judgments about the transformative journey toward groundbreaking innovations, achieved through attributes or performance. This process often involves the integration of multiple methods and consideration of diverse aspects. Assessment, in its essence, is concerned with identifying areas that warrant improvement. Conversely, measurement is a focused endeavour that assigns numerical values to quantify specific traits or variables, often utilizing standardized tools. Reducing assessment to a mere act of measurement is counterproductive and detrimental (Taylor, 1994). The genuine spirit of assessment is overshadowed by the rigid confines of measurement. The realm of education, once contemplated as the pursuit of civilizational enlightenment by philosophers, underwent a transformation that reduced its essence to a mere utilitarian tool. This shift transpired as the philosophy of education yielded ground to the prevailing models of operant conditioning within behavioural psychology. This transition was spurred by a hesitancy to acknowledge anything that lacked irrefutable proof. The consequences of such a reduction proved to be far-reaching. Evaluating educational outcomes through the prism of measurement scales distorts education by turning

it into a mere reflection of achievements within the prevailing educational system. This distortion is not a simplistic reductionist error; instead, it sets forth a trajectory that reinforces the current state and projects its influence into the future. It is as though the present moment, which is inherently a product of historical circumstances, acquires an unwarranted authority to dictate the course of events that lie ahead. Measurement is restricted by the confines of historical context, whereas assessment emerges as a profoundly perceptive endeavour that adeptly captures the very essence of dialectical processes often transgressed by history. Conventional belief holds that history adheres to dialectical patterns, but a closer inspection reveals that history transforms into a tangible manifestation of dialectics when viewed from an internal vantage point.

The currency of discourse has overshadowed the pursuit of truth, mainly because our perspective remains confined to the outward facets of discourse. We commit the fallacy of imputing the defining attributes of reality based on a retrospective ideological stance. Conversely, it is history that curtails the full potential of dialectical evolution. When history is perceived as a retrospective narrative, the tendency to misconstrue dialectics as an intrinsic attribute of history arises. This fallacy stems from our inclination to position the locus of truth within our current standpoint. Stationed on the manifest side of history, we mistakenly convert a dynamic potentiality into a static attribute. Manifest history is interpreted through data, while dialectic represents the momentum that disrupts this contextual confinement (Koopman, 2019). Evaluating educational outcomes through measurement is not a mere oversight in reductionism; instead, it carves a decisive trajectory rooted in the current moment. This trajectory not only perpetuates the existing status quo but also tethers the future to the confines of the present reality. The restraints of history serve as chains that fetter measurement, confining its scope within the parameters of the historical context.

In stark contrast, assessment, characterized by its profound understanding of dialectics, transcends the limitations imposed by history. The misguided fallacy of attributing unchanging attributes to a dynamic reality evokes parallels with the erroneous beliefs about gravity prior to its true nature being comprehended. These circumstances recall the words of wisdom from Jesus, who warned, "You blind guides, straining out a gnat and swallowing a camel!" In essence, the evaluation of educational outcomes through measurement sets in motion a decisive trajectory deeply embedded in the present moment. While history's boundaries curtail measurement, assessment rises above these confines, armed with an astute grasp of dialectics. Reducing assessment to mere measurement yields counterproductive results, as the delivery of knowledge from past to present constrains opening the future towards novelty. Reductionism, once an abstract foundational element within explanatory sources, has now assumed the role of a gauge for discernible cause and effect, so much so that learning is seen as conditioning effectiveness by measures. Managerialism has reduced educational institutions to ritualistic establishments that follow measurement mandates rather than serving as true custodians of the intuitive educational process, nurturing scholarly minds for a holistic shaping of the future (Alexander, et al., 1997). When education is fettered by managerial measures, it falls short of its purpose, and worse, it constrains students from making autonomous choices. As Chomsky astutely observed, when education fails to cultivate independent thinkers, it inadvertently mis-educates, fulfilling an institutional role in a system of control (Chomsky & Macedo, 2000).

On the contrary, learning, when it becomes democratic and exploratory, contributes to education by expanding the schema of knowledge and propelling civilizational progress (Piattelli-Palmarini, 1994). Democratic education challenges conventional dispositions with a commitment to truth and a knack for learning from lived contingencies, facilitated by an environment of free exploration. Dewey concisely captures this sentiment, stating:

Diversity of stimulation means novelty, and novelty means a challenge to thought. The more activity is confined to a few definite lines—as it is when rigid class boundaries prevent the interplay of experiences—the more action becomes routine for disadvantaged classes and capricious, aimless, and explosive for the privileged class (Dewey, 2001, p. 89).

In contrast, teaching solely for testing, measuring solely for assessment, and developing curricula strictly for pre-determined objectives, while constraining pedagogy and assessments within the boundaries of metrics to produce standardized learners via operant conditioning, amounts to mis-education.

The Oxford English Dictionary documents that before the 18th century, the term "student" was synonymous with a scholar, reserved for those earnestly and diligently engaged in the quest for knowledge. Over time, however, this concept underwent a transformation, disparaged into a designation assigned to any child enrolled in an educational institution. As a result, the notion of a student transitioned from denoting a scholar to signifying a disciplined entity, with schools transforming into mechanisms of social conformity and utility. This shift not only relegated the profound wisdom inherent in civilizations' educational approaches to insignificance but also rendered it redundant. This unfortunate transition occurred as the modern pursuit of expertise leaned heavily towards experimental behaviourism, and the principles of operant conditioning drew the educational apparatus to mistake measuring the effectiveness of conditioning to be the assessment of scholarship gained.

Harmonizing learning objectives of schools with educational objectives of civilizational dialectics

Schooling and education are often conflated, but they are distinct constructs. Schooling is a pragmatic tool within education's framework, focusing on tangible disciplinary outcomes and lifelong learning. Education, on the other hand, is a mission to unravel the dialectical impulses driving

civilizational progress. Schooling indoctrinates students into societal norms to align with class demands. Education, on the other hand, confronts the fallacies of social class biases, challenging false consciousness. Schooling imparts trade skills and cultivates theoretical or practical acumen within a socio-cultural context. Education, in comparison, extends beyond cultural confines, engaging in the subtractive dialectics of civilizational maturation (Zizek, 2014, p. 106). Schooling involves the epistemic reproduction of desired knowledge, while education delves into the realm of techne. *Technē* is the abstract form, mode of revealing, and poesis that brings forth and manifests as technology. It is the art of the mind (Heidegger, 1977, p. 13). *Technē* in contrast to *epistēmē* is opening and a revealing; it is a faculty that brings up whatever is not already there, whereas *epistēmē* is the ensemble of discursive regularity that is institutionally being reproduced (Foucault. 1972:191)

Education, however, unveils *technē* as an art derived from the reservoir of transforming the present in harmony with authentic revelations through civilizational dialectics. For Heidegger, *technē* is a mode of disclosure (*alétheuein*) that takes the pursuit of understanding out of hiddenness' is 'to take out of hiddenness' (Heidegger, 1977, p. 13, 27-30). Technology is in disconnect with *technē* more so it becomes an apparatus of conditioning and control, within the given discourse, deviating from its truth (*alétheuein*). Education as a techne has a mission of transforming the present, in accordance with the grounding principles of existence. The essence of education lies in 'remaining in the play' of civilizational dialectics, embracing the inclusivity of existence itself (Magrini, 2014). Unlike schooling, it transcends exclusive training for employability within the present milieu. For instance, imparting the skill to construct or enhance an electronic device constitutes schooling, whereas the educational pursuit seeks communion with the broader ecology. Schooling imparts technology, while education propels students to uncover the aesthetics of *technē*. Imparting sociological research skills may pertain to schooling, but it becomes truly educational when human society recognizes the sociological

processes that surpass epochal constraints, facilitating social networking and interaction.

Harmonizing immediate and lifelong schooling goals with educational objectives presents a challenge. Encouraging business skills devoid of ecological well-being or respect for dignity misaligns with educational aims. Education aligns learners with the vast human ecology, targeting societal transformation. In essence, education syncs learning with the dialectics of social change, while schooling functions as the disciplinary arm of prevailing social norms, resisting dialectical challenges. Between schooling and education, an interplay of opposing or contradictory forces emerges, rendering education a realm of civilizational dialectics. This triggers the collapse of ideological presuppositions through dialectical processes. Zizek views the fall of false comprehension as a dialectic of subtraction, while Badiou sees it as a pursuit of the unnameable, rupturing current misrecognitions—a dialectic attracted to singularity (Badiou, 2001; Badiou, 2003; Zizek, 2006, p. 9). The significance of this progression lies in dialectics' refusal to perpetuate culturally ingrained biases—an inherently educative quality. It pursues truth-seeking, though the truths it reveals are the dialectical ruptures themselves, eschewing notions of perfection. Thus, civilizational dialectics enable humanity to liberate itself from ideological confines. The resolution of the parallax gap—a tension inherent between schooling and educational objectives—remains a formidable question (Zizek, 2006: 4; Gurukkal, 2018, p. 3). The exact nature of the subject's ontology remains elusive, mirroring our uncertainty concerning truth and dialectics. The discussion around truth still holds its position as an axiomatic proposition, rather than a reality rooted in empirical evidence. Nevertheless, without concepts such as subjectivity, existence, and dialectical engagement, the foundation of equitable politics lacks solidity.

Unlike Foucault's idea of disconnected discursivity across various sites, represented by the "network that connects points and intersects with its own skein," referred to as heterotopia, along with its corresponding *heterochronies*, there exists an

inherent trajectory that enables us to differentiate between false consciousness or regression, and the advancement or progress of reason (Foucault 2004, p. 18; Foucault & Miskowiec, 1986, p. 22). Without such a guiding criterion, the proposal of an education distinct from conventional schooling remains untenable. Knowledge lost to the circularity of discursivity becomes detached from the dialectical progression of human civilization. Human discursive and dialectical subjectivity is predominantly moulded by systemic networks of self-reinforcing semantics and frameworks of governmentality (Foucault, 1991). Discursivity refers to subjectivity that is confined within the political economy of an enduring hierarchy of power relations. The present is coerced by the sequentiality of the past, which functions as our conscience, suppressing our subjugated state and resembling Freudian unconsciousness. Sociocultural archetypes, combined with dialectics spanning the transition from the past to the present, as well as discursive subjectivity and a diversified phylogenetic evolutionary unconscious, shape individual subject positions as they emerge through autopoietic spirals (Hunt, 2012, pp.88-91). Collectively, such factors contribute to the transformation of rational progress into irrational regression, a phenomenon noted by Horkheimer and Adorno. Just as Marx observed, when used to endorse a viewpoint dialectics become perpetuators of the existing state of affairs, stifling countervailing dialectical potential (Marx, 1877, p.103).

Schooling plays a role in upholding and advancing systemic autopoiesis. In contrast, education is charged with initiating the civilizational dialectic of enlightenment. This catalyst prompts empowered subject positions and the rational process (Adorno & Horkheimer, 1997). The coerced state of individuated subjectivity, confined by dialectical and discursive unconsciousness, finds itself in a state of un-education, articulated in Indic philosophical terms as avidya, thereby leaving room for education, known as vidya, to be achieved. Liberating the human conscience from network-induced constraints and propelling a dialectic of countervailing forces toward the restoration of freedom constitutes the essence of the

dialectics of education (Bhaskar, 2008). The discursively constrained human unconscious does not exist in isolation from the broader context of existence, encompassing the planet, its inhabitants, and the intricate relationships therein. Consequently, the purpose of education is to expand human comprehension and responsibility towards existence beyond the realm of *homo-politicus*. This calls for the reconciliation of seemingly conflicting elements—specifically, schooling and education—toward a dynamic progression of countervailing dialectics. This process seeks to dismantle the power structures that operate discursively from within, aligning with deeply entrenched polarities. The ultimate goal is to achieve a civilizational process devoid of coercion and its associated cultural remnants.

The dialectical potential that shapes history can be likened to the pre-existing system of langue, in relation to parole, the speech acts that respond to various contexts. According to Bhartṛhari, a 5th century CE grammarian, things essentially exist, and historical developments, although rooted in fundamentals, lack inherent resemblance (Vākyapadīya 3.3: 52-56 in Bhartṛhari, 2018 p.98). As a result, the countervailing capacity of dialectics becomes a guiding light for political praxis aimed at profound transformation (James, 1980; Dunayevskaya, 2001; Rabaka, 2010, p. 23). These intertwined elements, while complex, constitute parts of the educational institution system, concealing its inherent contradictions. In practical terms, the significance of education hinges on its compatibility with schooling, as schooling imparts vital life skills and employability. Conversely, as previously discussed, education assumes the role of civilizational dialectics, embracing the profound human responsibility of stewarding existence beyond the narrow pursuit of capitalizing on others. The paradox of education lies in its inability to stand in direct opposition to schooling; instead, it must shape the objectives and outcomes of schooling. This necessitates a novel epistemological approach, elevating education to a guiding principle within the framework of schooling, thereby reconciling their contradictions. The solution must be both viable and

pragmatic, moving away from a heterotopic mosaic of coexisting inconsistencies.

The pursuit of reconciling the inherent contradiction between schooling and education is thoroughly explored through the argumentative traditions of vidya-avidya by classical Indian grammarians, prominently evidenced in the *sphoṭa siddhanta* of Bhartṛhari. For Bhartṛhari, anything verbalized, including the highest knowledge, is *avidya*, and the unspeakable truth that the breakaway from avidya leads to is only vidya (Ivanov, 2009, pp. 253). The duality of vidya-*avidya* roughly parallels the duality between education and schooling. Bhartṛhari's perspective on *vidya* and *avidya* forms a complex and ambiguous parallax (Žižek, 2009). *Vidya-avidya* synthesis encapsulates an irreducible dynamic struggle between the transient movements (*asthira*) of avidya and its enduring (*śasthira*) counterpart. In Indic mythology, they are represented as the bow and arrow or projectiles (*śasthira*) and missiles (*asthira*) of knowledge and knowing (Herrigel, 1971). The parallax arises not solely due to subjective distinctions between *vidya* and *avidya*, but is inherently mediated, forming an irreducible dialectical synthesis of opposites where one aspect cannot be reduced to the other (Žižek, 2009). Similarly, educating students in various arts, crafts, or expertise is engaged in an irreducible dialectical synthesis with true education. Nonetheless, the revelation and release of meaning within the contexts of sentences (*vākya*) and implied significance (*dhvani*), resisting confinement by words or literal interpretation, result in a burst (*sphoṭa*). Mandana Misra (8th Century CE), a commentator on Bhartṛhari, identifies this as sphoṭasiddhi, leading to what he terms as brahmasiddhi, where siddhi signifies the faculty and the emergence into semantic novelty is sphoṭa. Sphoṭa not only breaks open words (*śabda*) within statements (vākya, the signified) but also releases the implied tonality of statements (*dhvani*), liberating the current from historical and cultural confines. *Vidya* and *avidya*, through the identification of errors in previous understandings and their resolution through the *siddhi* of *sphoṭa*, according to Mandana Misra's defence of Bhartṛhari, lead one to the wordless

void (*avācya*) of direct perception beyond the influence of words. Attaining direct perception unmediated by words equates to complete comprehension, termed as *Brahmasiddhi*. *Brahmasiddhi* signifies the achievement of vidya through avidya using the faculty of *siddhi* (Mishra, 1966 pp.3-26, Raja, 1997 p.5, 10-11, 58; Joshi, 1967; Kaplan 2007).

Bhartṛhari's *vidya-avidya* parallax is embedded within subtractive dialectics with a destination of emptiness, progressively deconstructing discursive inclinations of historical ontologies. The layers of language existing as words in sentences and sentences within their frames of reference (*dhvani*) exhibit mutual semantic anticipation (*ākāṅkṣā*), and sphoṭa is the faculty that gives rise to meaning (Iyer, 1971 p.5; Vergiani, 2021). Concerning the broader hierarchy of word meaning, sentence structure, and their frames of reference, they remain perpetually incomplete, allowing *avidya* to advance towards vidya through *sphoṭasiddhi* (Coward and Raja, 1990 p.59). This implies that the intended meaning in statements (*vākya*) persists through praxis and phronesis, resisting its fixed interpretation, drawing from the potency and inherent consciousness (*chaitanya*) within the levels of language and their discursive journeys (Aklujkar, 2001 p.459; Coward and Raja, 1990 p.35; Murthi, 1974 p.322). This suggests that at different levels of the linguistic hierarchy, language might conform to prescribed language games; however, it retains the potential for its inherent nature to erupt into novelty (Candotti, 2020). The core of Bhartṛhari's arguments, as further explored by Mandana Misra, revolves around the faculty that triggers the emergence of a sense within the word-ecology, referred to as sphoṭasiddhi. Therefore, the crucial factor is not merely the differentiation. Concerning the broader hierarchy of word meaning, sentence structure, and their frames of reference, they remain perpetually incomplete, allowing avidya to advance towards vidya through sphoṭasiddhi (Coward and Raja, 1990, p. 59). This implies that the intended meaning in statements (*vākya*) persists through praxis and phronesis, resisting its fixed interpretation, drawing from the potency and inherent consciousness (*chaitanya*) within the levels of language and

their discursive journeys (Aklujkar, 2001, p. 459; Coward and Raja, 1990, p. 35; Murthi, 1974, p. 322). This suggests that at different levels of the linguistic hierarchy, language might conform to prescribed language games; however, it retains the potential for its inherent nature to erupt into novelty (Candotti, 2020). The core of Bhartṛhari's arguments, as further explored by Mandana Misra, revolves around the faculty that triggers the emergence of a sense within the word-ecology, referred to as sphoṭasiddhi. Therefore, the crucial factor is not merely the differentiation between ultimate understanding (*vidya*) and contextualized knowledge (*avidya*), but rather the burst (*sphoṭa*) and the capacity to unfold the meanings within knowledge statements (*sphoṭasiddhi*).

A parallel effort to resolve this contradiction can be observed in the epistemic stances of Saussure and Chomsky. While both adopt a constructivist educational philosophy, they endorse the notion of innate language capacity as grammarians (Chomsky, 1985, 2012). Despite geographical and temporal separation, their positions exhibit similarities with Bhartṛhari. Grammar is not confined to a mere inventory of language games, involving forms of usage and corresponding meanings, or the rules governing them. This perspective diverges from the reductionist philology of Wittgenstein and later Foucault that treats language or consciousness as nothing beyond the discursive conventions of language games (Wittgenstein, 1958, p. 65; Helen, 1961; Carter, 2006; Foucault, 1971). Their position is reductionist because it dismisses the possibility of countervailing challenges to language games. Nevertheless, as revealed by Chomsky, grammar also constitutes an innate structural property with the potential to generate countervailing meanings within lived contexts (Hinzen, 2016, p. 38). However, embracing an extreme constructivist stance renders the pursuit of the 'will to truth' unattainable and ushers in an inevitable fatalism rooted in the 'will to power.' Such a stance would imply that the innate human potential could never transcend the calculative nature of historical discourse. This understanding relegates human evolution to a historical ontology, confining education to a mechanism of control orchestrated by forces of governmentality.

This, in turn, restricts the acknowledgment of the mathematical essence of existence inherent within the computational framework, suppressing natural intelligence in favour of its artificial counterpart. This approach renders genuine freedom unfeasible (Hallward, 2003, pp. 13, 20; Macey, 1994, p. xxxii; Zupancic, 2004, pp. 197-98). The 'will to truth' presupposes the primacy of being over becoming, while the 'will to power' elevates the will above truth. Disregarding the language and mathematics inherent in the protohistoric essence carries significant implications, potentially subduing the potential of dialectical processes to post-historical motives. Concepts like Euler's infinity, Cantor's set theory, Brouwer's fixed point theorem, Riemann's zeta hypothesis, Heisenberg's uncertainty principle, Gödel's incompleteness theorem, fractal infinity, and chaos theory collectively unveil that the computed exteriority possesses an incomputable interiority.

Discussion

The relationship between schooling and education highlights their differences while acknowledging their interaction. Schooling imparts skills, aligns with societal norms, and serves class interests. In contrast, education transcends boundaries, delving into civilizational dialectics, encouraging truth-seeking and societal progress. It goes beyond indoctrination, exploring *technē* as an art rooted in civilizational transformation, aligning with authentic principles of existence. Education propels students toward a deeper understanding of existence and their responsibilities, unlike schooling that often perpetuates power structures.

Reconciliation requires an epistemological shift, with education guiding schooling's objectives. This dynamic interplay aims to break free from constraints and power hierarchies. Bhartṛhari's *vidya-avidya* concept mirrors this tension, akin to the schooling-education paradox. Just as sphoṭa liberates meaning from words, education must break free from schooling's constraints for a higher purpose—advancing understanding, responsibility, and transformation.

Synthesizing schooling and education is a dialectical journey toward a profound understanding of human existence, navigating subjectivity, hierarchies, and ontologies. Embracing education's dialectical potential can lead society to true freedom and enlightenment, transcending coercion and false consciousness. Balancing schooling's immediate goals with education's transformative objectives allows individuals to engage with civilizational dialectics, shaping a more enlightened future. The pivot connecting education and schooling is innovation, the *sphoṭasiddhi***.**

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OUTCOMES AND CHOICE BASED EDUCATIONAL OPPORTUNITIES IN HIGHER EDUCATION UNDER NEP-2020

Prof. (Dr.) S. R. Jakhar*

Introduction

Education serves as the principal qualification enabling individuals to harness their full potential, thereby fostering both personal and national advancement. This pivotal role of education is not merely confined to individual or national growth; it extends to global development. Through education, individuals are endowed with talent, leadership skills, and an equitable mindset, equipping them to contribute positively to their nation and the global community. Furthermore, education stands as the most potent instrument for achieving social justice and equality.

The recent educational reform policy has been introduced to address the existing disparity between contemporary educational outcomes and the specialized requirements of industries. However, it is imperative to note that this policy does not aim to stifle students' passions and hobbies. Instead, it introduces the concepts of core and elective courses, allowing students to tailor their educational journey according to their interests. The National Education Policy-2020 accentuates the importance of nurturing the creative potential of every individual, emphasizing their social, ethical, and emotional development. It is undeniable that higher education plays a pivotal role in ensuring sustainable livelihoods, cultivating cultured citizens, and propelling the nation's economic growth (Anon, 2020; UGC, 2023 a, b, c and d).

The NEP champions a flexible approach to learning, empowering learners to curate their educational paths based on their propensity. It eradicates rigid boundaries between disciplines

* Professor, Department of Geology, Jai Narain Vyas University, Jodhpur.

such as arts and sciences and between vocational and academic streams. This strategy aims to dismantle detrimental hierarchies that have historically plagued the educational landscape. The policy underscores the significance of fostering creativity, critical thinking, and logical decision-making abilities. Moreover, it in stills core human and constitutional values in learners, such as empathy, respect, democratic ethos, scientific temperament, and a sense of responsibility. Emphasis is also placed on life skills, including communication, collaboration, and resilience. The policy advocates for a shift from summative assessments to regular formative assessments, promoting a more holistic approach to learning evaluation.

Recognizing the transformative potential of online and digital education, the National Education Policy 2020 underscores its benefits, particularly in democratizing access to quality education through technology. This mode of education is envisioned to be complemented by experiential and activity-based learning. To realize this vision, the policy suggests leveraging established e-learning platforms like SWAYAM, DIKSHA, and SWAYAMPRABHA.

The NEP-2020 introduces the National Higher Education Qualifications Framework (NHEQF), which delineates educational qualifications in tandem with a credit system. This framework sets forth expectations regarding the qualities and competencies a graduate should possess upon completing a program. These encompass both discipline-specific learning outcomes and generic competencies expected of all graduates.

Lastly, the NEP-2020 introduces the Choice Based Credit System (CBCS), offering students a plethora of options from prescribed elective, ability-enhancing, and skill development courses (UGC, 2022). The policy also acknowledges and seeks to uplift the vast reservoir of intellectual and creative talents manifest in diverse art forms and crafts within the nation (UGC, 2023c).

Curriculum

The curriculum, encompassing the syllabus for each distinct component (hereafter referred to as "course") within an Academic Program, is intended to culminate in the conferral of Academic Qualifications, ranging from Certificates and Diplomas to Bachelor's, Post Graduate Diplomas, and Master's degrees under the Choice Based Credit System (CBCS). Such curricula are meticulously crafted by esteemed higher education institutions, aiming to endow students with an expansive array of course options. This design facilitates the creation of a bespoke learning trajectory, characterized by its flexibility and provisions for multiple entry and exit points, tailored to individual preferences and necessities. The CBCS-driven curricula are inherently flexible, fostering interdisciplinary and multidisciplinary academic exchanges among premier Higher Education Institutions both within India and internationally, underpinned by a robust credit transfer mechanism.

An Academic Program, which leads to the awarding of Undergraduate or Postgraduate Degrees, Diplomas, or Certificates in core subjects (e.g., B.Sc. Program), comprises a multitude of courses. These courses, often colloquially termed as 'papers', are bifurcated into core/major courses (mandatory discipline-specific courses) essential for securing qualifications in selected disciplines, and elective/minor courses. The latter, while not obligatory, are selected based on student preferences at the commencement of the semester, contingent upon course availability within the respective faculty, department, college, or centre, and in alignment with the merit and reservation policies instituted by the State Government.

For enhanced clarity and comprehension, each course within the curriculum is delineated using the following parameters:

(i) Course Code
(ii) Course Type
(iii) Course Title
(iv) Course Level
(v) Course Credit Allocation

(vi) Delivery Modality, encompassing:
   a. Purely Theoretical or Theoretical complemented by Tutorials
   b. Practical Laboratory Work, Practicum, or Studio Activities
   c. Other specialized formats
(vii) Course Pre-requisites and Co-requisites
(viii) Course Objectives
(ix) Detailed Syllabus
(x) End-of-Semester Examination Scheme
(xi) Recommended books and References
(xii) Hyperlinks to recommended e-resources hosted on the university's official website
(xiii) Hyperlinks to external recommended e-resources
(xiv) Expected Learning Outcomes upon course completion

The type of courses classified and accepted in the state of Rajasthan based on tune of NEP-2020 are given here in table 1.

Table 1. Courses types and their nature.

Category	**Type**	**Code**	**Nature of the Course**
Core Courses	Discipline Centric Core (Compulsory)	DCC	Within the academic curriculum, a discipline-centric course is compulsory for students who select a specific discipline to achieve their Academic Qualification. Such courses constitute a core requirement. It is stipulated that no more than 60% of the credit prerequisites for a

			program should be allocated to Discipline Centric Compulsory Core Courses.
Elective Course	Discipline Specific Elective	DSE	Elective courses, categorized under a particular discipline or subject, are termed as Discipline Specific Electives (DSE). The base of these courses often lies in the faculty's expertise, specialization, requirements, scope, and needs. Furthermore, interdisciplinary DSE courses may be administered by departments other than the primary discipline, possibly in collaboration with other academic units or departments.
	Generic Elective	GEC	A Generic Elective Course is an elective that either diverges from the primary discipline or is interdisciplinary. Students opt for these courses to broaden their academic horizons beyond their primary discipline. These courses can be based on the expertise, specialization, requirements, scope, and needs of the faculty.

			The objective of such courses is to facilitate exploration beyond core and elective courses. These electives can encompass a wide range of subjects, such as Ethics, Humanism, Design, Innovation, Technology and Society, Entrepreneurship, Environmental Science, Indian Knowledge System, and even locale-specific subjects. If a core or elective course is from a discipline/subject distinct from the primary program, it is classified as a Generic Elective.
	Dissertation/ Project/ Field Study	DPR	Courses designed to impart specialized or advanced knowledge, such as supplementary studies or fieldwork, are termed Dissertation/Project/Field Study (DPR). At academic Levels 6 and 6.5, students are introduced to research methodologies through these courses. Such endeavours are supervised by a departmental teacher, a scientist, or another individual with a

			distinguished research background. The credit allocation for these projects is substantial, reflecting the depth of study required. Project work shall be of higher credits four or six for proper accomplishment of the study.
	Internship/ On-Job Experience	IOJ	Elective courses that encompass Internship or On-Job Experience are undertaken according to the academic program's schema, post-approval from the respective educational institution. These courses involve working with local industries, businesses, artists, crafts persons, etc. The courses necessitate students' involvement in professional activities, normally under supervision of employee of external entity. The crux of such internships is real-world immersion, offering students practical insights.
	Community Engagement Experience	CEE	The Community Engagement Course (CEC) is an elective emphasizing field-based learning, typically under supervision of employee

			of external entity The curriculum accentuates community engagement, acquainting students with societal socioeconomic challenges, thereby bridging theoretical knowledge with real-world scenarios.
	Seminars	SEM	At Levels 6 and 6.5, seminars focusing on recent academic advancements and research topics can be introduced as elective courses.
	Research Credit Course	RCC	A Research Credit Course (RCC) is an elective centered on research, culminating in seminar presentations or journal publications. The credit allocation for these courses is determined by the research guide, based on the student's documented progress/log records and institutional head's approval. No contact hour per week be assigned in the timetable for Research Credit Course and it will be beyond class hours.

Special Type of Courses (Compulsory or Elective as specified in the curricula of the academic program)	Ability Enhancement Course	AEC	The Ability Enhancement Compulsory Course (AECC) emphasizes knowledge enhancement in languages such as English, Hindi, or Modern Indian Languages. While these courses are mandatory for Bachelor's programs, they are excluded from Master's curricula.
	Skill Enhancement Course	SEC	Skill Enhancement Courses (SEC) prioritize value or skill acquisition, offering practical training and competencies. These courses, essential for Bachelor's programs, aim to augment students' employability but are not incorporated into Master's programs.
	Value Aided Courses	VAC	Lastly, a unique subset of Generic Elective Courses for Bachelor's programs is termed Value Aided Courses. These courses either align with the primary discipline or are universally applicable across undergraduate programs.

Structure of the Undergraduate Programme with credits

The architectural framework of the Undergraduate Programme is meticulously designed, incorporating credit allocations for a holistic academic experience. This programme is segmented into distinct categories of courses. The University Grants Commission (UGC, 2022 and 2023) has delineated the minimum credit prerequisites for both the 3-year standard Undergraduate and the more intensive 4-year Undergraduate (Honours) or Undergraduate (Honours with Research) programmes. For a granular understanding of the credit requirements essential for the conferral of a degree within each category, one is advised to consult Table 2.

Table 2: Minimum Credit Requirements to Award Degree under Each Category.

S. No.	Broad Category of Course	Minimum Credit Requirement	
		3-year UG	4-year UG
1	Major (Core)	60	80
2	Minor Stream	24	32
3	Multidisciplinary	09	09
4	Ability Enhancement Courses (AEC)	08	08
5	Skill Enhancement Courses (SEC)	09	09
6	Value Added Courses common for all UG	06-08	06-08
7	Summer Internship	02-04	02-04
8	Research Project / Dissertation	*	12
9	Total	120	160

Note: *Honours students who opt out of research endeavours are required to complete three distinct courses, cumulatively amounting to 12 credits, in lieu of research project or dissertation.

While there exists a framework for credit assignments as presented in the aforementioned table, it is not imperative for universities or governing state bodies to rigidly adhere to these allocations. However, it is paramount to observe the stipulated minimum credits when conferring certificates, diplomas, and degrees. As a case in point, Jai Narain Vyas University in Jodhpur has adopted a total of 120 credits for their six-semester multidisciplinary degree. Yet, their credit allocation diverges, with 72 credits dedicated to major/core courses, 36 credits for minor/elective courses, 4 credits for ability enhancement courses, and a further 8 credits for skill enhancement courses. For a detailed breakdown, one may refer to Table 3 as an example.

Table 3. Credits to be earned for undergraduate (B.Sc./B.A./B.Com.) Three Years Multidisciplinary Program and their distribution.

Course Type	**Total Credits in individual Discipline DCC, DSE, AEC & SEC**	**Semester I**	**Semester II**	**Semester III**	**Semester IV**	**Semester V**	**Semester VI**
DCC DSE	DCC - 72 (24+24+24)	DCC – 18 credits	DCC – 18 credits	DCC – 18 credits	DCC – 18 credits	DSE – 18 credits	DSE – 18 credits

AEC	DSE - 36 (18+18) AEC – 04 (2+2) SEC – 08 (4+4)	AEC - 2 credits	AEC - 2 credits	SEC - 2 credits	SEC - 2 credits	SEC - 2 credits	SEC - 2 credits
SEC	Total 120 Credits	20	20	20	20	20	20
		A student can Exit with Certificate on completion of Semester II (40 + 4 SEC additional credits)		Entry with Certificate in III Semester and Exit with Diploma on completion of IV Semester (80 credits)		Exit with undergraduate degree of 120 Credits	

Note: DCC – Discipline Centric Core Course; DSE – Discipline Specific Elective Course; AEC- Ability Enhancement Course and SEC – Skill Enhancement Course.

Beyond the disciplines previously delineated, students have the opportunity to accrue credits from specialized disciplinary courses. These encompass Seminars, Field Studies, On-Job Experiences, Vocational Courses, Community Engagement Experiences, and Research Credit Courses.

Credit hours for different types of courses

In the academic sphere, the concept of credit hours serves as a pivotal metric, quantifying the workload associated with a given course, in simple words it is a unit by which the course work is measured.

Credit hours encapsulate the volume of work associated with a course, with each credit signifying a unit by which the

coursework is gauged. This metric elucidates the quantum of instructional hours mandated per week throughout a semester's span, typically extending over a minimum of 15 weeks.

Courses can manifest in diverse configurations. They might solely comprise lectures or be an amalgamation of lectures and tutorials, lectures and practicums, or even a combination of lectures, tutorials, and practicums. To elucidate, a semester-long course with three credits allocated to lectures or tutorials translates to three one-hour lectures weekly, with each lecture being equivalent to one credit. Over a 15-week semester, such a course would necessitate 45 hours of pedagogical engagement. Conversely, a course with a singular credit in practicum, laboratory work, community outreach, or fieldwork mandates two hours of engagement weekly. In a semester spanning 15 weeks, this translates to 30 hours of engagement, as delineated by the University Grants Commission (UGC) in 2022.

Courses such as Seminars, Internships, Studio activities, Field practice or projects, or Community engagement and service, when allocated a singular credit, demand two hours of engagement weekly. Thus, over a 15-week semester, these courses equate to 30 hours of engagement.

For a more granular understanding, Table 4 offers an illustrative breakdown, showcasing the credit hours and credits for diverse disciplines within the M.Sc. Geology Two Years Program of NHEQF Level 6.5 at JNV University, Jodhpur. This table delineates the course code, credit hours or workload, and credits corresponding to each course component (L-lecture, T-tutorial, P-practical, S-special type, H/W-hours per week), serving as an academic compass for prospective students and educators alike.

Table 4. M.Sc. Geology Two Years Program of NHEQF Level 6.5, with Course Code, credit hours or workload and Credits.

Course Code	Course Title	L	T	P	S	H/W	Total Hours	Credits	Total Credits
GEO9003T	Phanerozoic Stratigraphy	3	0	0	0	3	45	3	10
GEO9004T	Palaeobiology	3	0	0	0	3	45	3	
GEO9002P	Phanerozoic Stratigraphy and Palaeobiology Practical	0	0	4	0	8	120	4	
GEO9103T	Sedimentology	3	0	0	0	3	45	3	5
GEO9103P	Sedimentology Practical	0	0	2	0	4	60	2	
GEO9104T	Igneous Petrology	3	0	0	0	3	45	3	5
GEO9104P	Igneous Petrology Practical	0	0	2	0	4	60	2	

GEO9105T	Environmental Geology	4	2	0	0	6	90	6	6
GEO9106T	Engineering Geology	4	0	0	0	4	60	4	4
IOJ9311S	Internship	0	0	0	♪	-	180	4	4
CEE9311S	Community Engagement Experience	0	0	0	♪	-	180	4	4
RCC9311S	Research Credit Course	0	0	0	♪	-	180	4	4
SEM9312S	Seminar	0	0	0	♪		60	2	2
IOJ9312S	On-Job Experience	0	0	0	♪	-	180	4	4
DPR9313S	Dissertation	0	0	0	♪	-	180	6	6
DPR9314S	Project Work	0	0	0	♪	-	120	4	4
DPR9315S	Field Study	0	0	0	♪	-	120	4	4
	Total credits to be earned								20

Principal Characteristics of the Credit System (CS)

According to the University Grants Commission (UGC, 2022), the Credit System encompasses the subsequent characteristics:

1. Half (50%) of the total credits should be obtained in the pertinent subject or discipline. Conversely, the remaining 50% of the credits can be acquired from any discipline, contingent upon the student's preference.
2. Students are not permitted to take the same courses studied in the 12th class under the interdisciplinary category.
3. Up to 40% of the credits across any category can be procured via online courses, provided these are sanctioned by the respective Department and Institution in alignment with the prevailing UGC guidelines.
4. A majority, specifically 60% of the credits, should be derived from the university conferring the program.
5. There exists flexibility for students to shift between different disciplinary areas during their study period by securing the required credits in the chosen disciplinary/interdisciplinary domains of study
6. The system offers adaptability for learners to transition between institutions, fostering both multi-disciplinary and interdisciplinary education.
7. The system also supports the transition between diverse learning modalities, including face-to-face, Open and Distance Learning (ODL), online learning, and hybrid instructional methods.
8. To streamline the execution of the credit system, mechanisms such as the Academic Bank of Credit (ABC) and Multiple Entry and Exit have been instituted.

The National Higher Education Qualifications Framework (NHEQF)

Qualifications are formally recognized 'awards', which can be in the form of certificates, diplomas, or degrees. These are conferred by accredited entities, like universities, as an acknowledgment of students meeting the anticipated learning

outcomes and standards upon successfully completing a specific study program.

The NHEQF, as delineated by UGC (2023), is encapsulated as follows: A National Qualifications Framework (NQF) serves as a tool for classifying qualifications based on a predefined set of criteria for achieved learning levels. This framework aims to amalgamate and coordinate qualifications from diverse educational and training sectors into a unified, comprehensive qualification framework. Essentially, it structures qualifications, both existing and forthcoming, characterized by learning outcomes that mirror the graduate profile or attributes, program learning outcomes, and course learning outcomes. These outcomes represent the knowledge, comprehension, and skills a learner is anticipated to possess and exhibit upon successfully completing an approved study or learning program. The NQF is instrumental in enhancing the transparency of individual qualifications through defined learning outcomes, fostering a better grasp of educational and training systems, promoting credit accumulation and transfer across study programs, ensuring the accountability of educational and training systems, aligning education more closely with market demands, minimizing the disparity between education and labour market requirements, and facilitating the acknowledgment of prior learning.

The heterogeneity in the nature of Higher Education Institutions (HEIs) in India has led to inconsistencies in outcomes associated with varying qualifications across these institutions. This inconsistency hampers student mobility and their employability prospects. Moreover, certain Indian qualifications lack international recognition, and conversely, some international qualifications are not acknowledged in India. Given the vastness and diversity of India's higher education landscape, there's a pressing need for a nationally endorsed and globally equivalent qualifications framework to enhance transparency and comparability of higher education qualifications. The NHEQF is a stride towards this objective (UGC, 2023). Each qualification within the NHEQF is synchronized with an academic credit

system, grounded in the achievement of specified learning outcomes and the academic workload undertaken by students in their chosen study program. Furthermore, the levels within the NHEQF are harmonized with the National Credit Framework (NCrF) to assist both students and institutions (UGC, 2023).

The National Higher Education Qualifications Framework (NHEQF) Levels

The NHEQF levels delineate a structured sequence of stages, each characterized by a specific range of learning outcomes. These outcomes serve as benchmarks against which various qualifications are positioned or situated. The design of courses is fundamentally rooted in these learning outcomes, the level of academic challenge, and the rigor they entail.

For instance, within the NHEQF, Level 4.5 corresponds to learning outcomes that are typical of the first year (encompassing the initial two semesters) of an undergraduate program. In contrast, Level 8 is indicative of learning outcomes that are commensurate with a doctoral-level program of study, as detailed in Table 5 (UGC, 2023).

It is the prerogative and responsibility of the respective Faculty or Department to designate an appropriate NHEQF level to each course, which forms a component of the Academic Program. This assignment is predicated on the course's curriculum, its associated learning outcomes, and in alignment with the academic rigor required for the corresponding Academic Qualification, as elucidated in Table 5 below.

Table 5. Qualifications in Higher Education Aligned with NHEQF Levels and Credit Requirements.

NHEQF Level	**Credits Requirement**	**Higher Education Qualifications within Each Level**
Level 4.5	40 credits	Undergraduate Certificate Programme: First year (first two semesters), in case of exit complemented by a 4-credit skills-enhancement course(s). Totalling 44 credits (40 + 4).
Level 5	80 credits	Undergraduate Diploma Programme: Spanning the first two years (four semesters), succeeded by a 4-credit skills-enhancement course(s).
Level 5.5	120 credits	Bachelor's Degree Programme: Encompassing three years (six semesters) undergraduate programme (the initial 3-years only, in case of the 4-years programme). This includes a major or core course (72 credits), a minor or elective course (36 credits), Ability enhancement courses (4 credits), and skill enhancement courses (8 credits).
Level 6	160 credits	Bachelor's Degree (Honours/ Honours with Research): A four-year program spread across eight semesters.
Level 6	40 credits	A Post-Graduate Diploma programme of 1-year/2-semester duration. This builds upon a 3-year/6-semester bachelor's degree and necessitates a minimum of 40 credits. It can also be awarded upon completing the first year (two

		semesters) of a 2-year master's programme.
Level 6.5	80 credits	Master's degree (e.g., M.A., M.Com., M.Sc.) of two years (four semesters) duration, pursued after a 3-year Bachelor's degree (e.g., B.A., B.Sc., B.Com.).
Level 6.5	40 credits	Master's degree (e.g., M.A., M.Com., M.Sc.) of one year (two semesters) duration, pursued after a 4-year Bachelor's Degree (Honours/ Honours with Research) (e.g., B.A., B.Sc., B.Com.). This includes 20 credits of Discipline Centric Core (major) Courses.
Level 7	80 credits	The 2-year/4-semester Master's degree (e.g., M.E./M.Tech.) builds upon a 4-year/8-semester bachelor's degree (e.g., B.E./B.Tech.), inclusive of 40 credits of Discipline Centric Core courses.
Level 8	Credits of coursework, a thesis and published work	Doctoral Degree: Admissions are open to graduates of a 1-year/2-semester Master's programme, a 2-year/4-semester Master's programme, or a 4-year/8-semester Bachelor's degree. The program has a minimum duration of three years. A hallmark of all doctoral degrees is original research. The body of work culminating in the award of a doctorate will encompass coursework, a thesis, published work, and potentially creative work (e.g., in visual or performing arts).

The Table 5 provides a comprehensive overview of the qualifications in higher education as they align with the different levels of the NHEQF and their respective credit requirements.
However variability in credit assignment may vary slightly between institutions to institutions for specific programmes as explained below.

1. Credit Assignment Variability: The allocation of credits across the NHEQF levels might differ among universities. Furthermore, students have the latitude to accrue more credits than what is stipulated for a specific qualification.

2. Special Cases for Short-Term Programs: In instances where a College, Department, or Center independently designs and administers a one-semester certificate program, it will be ascribed an NHEQF Level, credits, and a program title. For instance, such a program might be designated as a 'Twenty Credit (NHEQF Level 4.5) Certificate of Gems & Jewelry'. Analogously, a two-semester Diploma Program, which is not a component of standard B.A./B.Sc./B.Com. Programs, would be labelled as a 'Forty Credit (NHEQF Level 4.5) Diploma of Gems & Jewelry'. However, when these programs are integrated with three or four-year degree courses, they will be conferred as certificates and diplomas.

NHEQF Level Descriptors, Programme, and Course Learning Outcomes

The National Higher Education Qualifications Framework (NHEQF) serves as a pivotal tool for the formulation, categorization, and acknowledgment of qualifications within a spectrum of levels in higher education, ranging from 4.5 to 8. For school education, the levels span from 1 to 4. Each distinct level is meticulously crafted around predefined learning outcomes.

Upon completing their selected programs under the NHEQF, students are expected to embody and exhibit the graduate attributes delineated in terms of the anticipated learning

outcomes. These outcomes can be acquired through various modes of learning, be it direct face-to-face instruction, open and distance learning, online education, or a blend of these methods.

The outcomes detailed in the NHEQF level descriptors (as per UGC, 2023) are achievements students garner through the knowledge and skills acquired upon completing a program of study pertinent to their chosen domains of learning, work, or professional practice. Here, the term 'program' denotes the comprehensive scheme of study a learner undergoes leading to a qualification. Each program comprises specific learning outcomes that must be met for the awarding of a particular certificate, diploma, or degree. Conversely, the term 'course' refers to the individual subjects or modules that constitute the overall study scheme of a program.

Agencies responsible for curriculum development must ensure that the learning outcomes of individual programs align seamlessly with the corresponding qualification descriptor within the relevant NHEQF level. These Programme Learning Outcomes (PLOs) encompass outcomes intrinsic to disciplinary domains associated with the selected field(s) of learning, work, or professional practice. Additionally, they integrate generic learning outcomes, which include transferable skills and competencies that every graduate should possess and demonstrate, irrespective of their program of study. These PLOs emphasize knowledge and skills that equip students for further academic pursuits, employment opportunities, and responsible citizenship. They play a crucial role in standardizing learning levels and academic benchmarks across educational institutions in India, offering a holistic view of the competency levels of graduates from specific programs. Programs can span monodisciplinary, multidisciplinary, or interdisciplinary domains; vocational education; or technical/professional education. Regardless of the nature of the program or course, the essence of the learning outcomes remains consistent, ensuring students achieve the required outcomes across disciplines. The universal outcomes are detailed in Table 5, as

defined by UGC, 2023, and there's no need to specify them for individual disciplines here.

Graduate attributes encapsulate learning outcomes specific to disciplinary areas within broader multidisciplinary, interdisciplinary, or transdisciplinary contexts. They also include generic learning outcomes that all graduates should acquire and exhibit. For instance, a student enrolled in a PG Geology program should be adept at elucidating the knowledge acquired throughout the program, demonstrating a profound understanding of the geology discipline, and applying specialized skills pertinent to the subject. Similar capabilities expected for all disciplines which is chosen by graduates, for example Chemistry, Physics Zoology, Geography, Hindi, History, Accounting, Business Administration etc. Specific guidelines related to various disciplines are provided in Table 6, as sourced from UGC, 2023.

Table 6. Type of learning outcomes and their descriptors (UGC, 2023).

Type of learning outcomes	The Learning outcomes descriptors
Specific to Disciplinary/Interdisciplinary Areas of Learning	Graduates are expected to:
	Exhibit a thorough knowledge and coherent understanding of their chosen disciplinary/interdisciplinary areas of study within a broad multidisciplinary context, understanding the interconnections with related fields and staying abreast of contemporary and emerging developments
	Possess practical, professional, and procedural knowledge essential for executing professional tasks or highly skilled work pertinent to their field(s) of

	study. This includes knowledge conducive to self-employment initiatives and an entrepreneurial mindset geared towards innovative enterprise creation, product enhancement, or novel organizational methods.
	Demonstrate proficiency in areas related to their specialization within the chosen disciplinary/interdisciplinary context. This encompasses a broad array of practical skills, applicable in both routine and novel situations related to their field(s) of study.
	Have the ability to extrapolate from acquired knowledge, apply concepts to real-world scenarios, and utilize competencies in unfamiliar contexts to devise solutions, rather than merely replicating curriculum-based knowledge.
Generic learning outcomes	Complex problem-solving: Graduates should exhibit the ability to solve diverse problems in both familiar and novel contexts and apply this learning to real-world situations.
	Critical thinking: Graduates should showcase the ability to apply analytical thought to a body of knowledge, evaluate policies, practices, evidence, arguments, and the reliability and relevance of evidence, and synthesize data from various sources to draw substantiated conclusions.
	Creativity: Graduates should demonstrate the capacity to think, perform, or conceptualize in varied ways about the same objects or scenario, perceive

	problems from multiple angles, think innovatively, and employ innovative, imaginative, and emotional intelligence.
	Communication Skills: Graduates should manifest skills that enable them to listen attentively, read texts and research papers critically, present intricate information lucidly to diverse audiences, articulate thoughts effectively both in writing and orally, and communicate using suitable media. They should also confidently express their views, construct logical arguments using field-specific language, and convey ideas with language that is respectful and sensitive to gender and other minority groups.
	Analytical reasoning/thinking: Graduates should exhibit the ability to analyse and synthesize data from diverse sources, draw validated conclusions, and support them with evidence and example, and address opposing viewpoints.
	Research-related skills: Graduates should display keen observational skills, inquisitiveness, the ability to design research proposals, define problems, formulate relevant research questions, test hypotheses using quantitative and qualitative data, develop appropriate methodologies for data collection, use statistical and analytical tools effectively, and understand basic research ethics.
	Coordinating/collaborating with others: Graduates should demonstrate the ability to work effectively within diverse teams,

	facilitate coordinated group efforts, and work efficiently as team members.
	Leadership readiness/qualities: Graduates should exhibit the ability to map out organizational tasks, formulate an inspiring vision, motivate team members, and utilize management skills to guide individuals towards a common goal.
	Learning how to learn skills: Graduates should demonstrate the ability to acquire new knowledge and skills, work independently, identify resources for further learning, organize tasks, manage time effectively, and foster a lifelong learning attitude.
	Digital and technological skills: Graduates should exhibit the ability to use Information and Communication Technology (ICT) effectively, access and evaluate various information sources, and utilize appropriate software for data analysis.
	Multicultural competence and inclusive spirit: Graduates should display knowledge of diverse cultural values, the ability to engage effectively in multicultural settings, lead diverse teams, and adopt a gender-neutral approach.
	Value inculcation: Graduates should manifest the acquisition of constitutional, humanistic, ethical, and moral values, practice responsible global citizenship, formulate ethical arguments, recognize and adhere to ethical practices, intellectual

	property rights, avoid plagiarism and promote sustainable development.
	Autonomy, responsibility, and accountability: Graduates should demonstrate the ability to apply knowledge and skills independently, manage projects, and ensure safety and security in workplaces.
	Environmental awareness and action: Graduates should exhibit knowledge and skills to mitigate environmental degradation, manage waste effectively, and promote sustainable living.
	Community engagement and service: Graduates should be capable of participating in community services to promote societal well-being.
	Empathy: Graduates should be able to understand and relate to the perspectives and emotions of others.

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RESEARCH BASED PRINCIPLES OF LEARNING AND TEACHING STRATEGIES

Prof. (Dr.) S. Viswanadha Raju*

Introduction

This chapter focuses on the principles of learning and teaching strategies. Before diving into the main discussion, it is necessary to identify the topics and sub-topics. The first subtopic is learner-centric approaches, followed by the integration of Information and Communication Technology ("ICT") in education, and lastly, an exploration of the comparison between traditional and internet-based ICT education.

Before delving into the main topic, it is important to understand what the traditional education system entails. In the traditional education system, the emphasis is primarily placed on the outcomes of individual, unrelated subjects. When a syllabus is examined, there is a found lack of correlation among different courses or subjects within the program, which is something worth contemplating. When designing the curriculum, it is imperative to create a prerequisite chart, as it plays a vital role in establishing relationships among various courses. Indeed, failure to develop a prerequisite chart may result in disconnected subjects.

Hence, there is a significant need to focus on holistic education, which plays a crucial role in the current scenario. The past four years have been marked by a bitter experience due to the COVID-19 pandemic. The lack of holistic education has led people to prioritize power and wealth over their personal well-being. This is especially important in the present context. In the

* Department of Computer Science & Engineering, JNTUH University College of Engineering, Jagtial.

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future, it is hopeful that there will be greater emphasis on holistic education, encompassing aspects such as health and lifestyle management systems. Therefore, holistic education refers to the incorporation of various aspects of life, including livelihood skills, economics, health, and nutrition, into the education system: resulting in a progressive approach to education.

As the saying goes, "To get rich, never risk your health, for it is true that health is the ultimate wealth." Therefore, there is a pressing need to focus on areas such as economics, health management, and nutrition so that education is not solely centred around earning, but also encompasses the creation of a healthy lifestyle management system. A healthy lifestyle management system entails equipping individuals with knowledge of economic concepts, the ability to care for their personal health, nutrition maintenance, self-control, and mental well-being, among other things.

Curriculum planning

Kelly identifies three major ideologies in curriculum planning which are familiar to most people involved in curriculum planning. The first ideology perceives the curriculum as content, and education as a transmission process where students acquire knowledge. In the traditional education system this approach is currently followed, considering the curriculum as content to be transmitted to students. This information is taken in for the purpose of earning a living, and perhaps survival. However, it needs to be recognized that curriculum can also be seen as a product, with education serving as an instrument to shape students into workers. Alternatively, the curriculum can be viewed as a process, with education focused on holistic development. In this perspective, the curriculum is created by considering societal problems, student-centred approaches, and community involvement. It must be ensured that the curriculum is designed not only to facilitate students' survival but also to contribute to the improvement of society.

To achieve this, it is necessary to analyse society and identify areas that require attention. Considering the needs of society, one or two courses contributing to its development should be introduced into the curriculum. The nature of the curriculum encompasses multiple aspects: citizenship education, moral development, vocational skills, preparation for higher education, promoting healthy lifestyles, and preparing for examinations. It is essential to address these points and align them with the point of focus. When reviewing a syllabus, it becomes evident whether it is geared towards job orientation or fostering a healthy lifestyle management system. The elements of the curriculum encompass who teaches it, what is taught, where and when it is taught, why it is taught, how it is taught, what the outcomes are, who learns what, and how it is assessed. When planning the curriculum, defining specific outcomes is crucial. Throughout the teaching process, the focus should be on achieving these outcomes, and ensuring that students comprehend them. This constitutes true teaching. Additionally, there is a need to implement assessment mechanisms tailored to each respective outcome. Currently, there is a standardized assessment process for every course, but it would be beneficial to introduce specific and unique assessment mechanisms based on the course requirements.

In the current University External examinations, there are eight questions for each course, of which five must be answered without considering the Learning Outcomes. This approach is not appropriate; it is important to evaluate whether the outcomes are relevant to the skills, knowledge, or attitudes being assessed, and accordingly, design appropriate assessment mechanisms. Without such tailored assessments, there is limited scope for improvement in education.

The key takeaway here is considering how many of us truly prioritize engaging students in activities. Often, teachers simply teach and move on, but that's not the correct approach. They should teach them, form groups, and assign various activities to keep them actively involved. Through this process, students can acquire numerous skills. A participative learning

environment is essential in an education system. Unlike a simple classroom or laboratory setting, this kind of environment enables students to acquire knowledge, skills, values, and attitudes. After teaching a course, it is important to conduct planned activities and introduce assessment mechanisms for each individual student. These mechanisms should be evaluated, and observations should be made. Based on these observations, one can assess the progress and reflect on it. This is what teaching truly means: it is not a one-to-many approach. Teaching involves instructing students as a group and engaging them in various activities to help them acquire skills. Every outcome may reflect knowledge, skills, values, or a combination of these elements. These are the basic principles of teaching, starting with utilizing prior knowledge. When beginning a course, it is crucial to review prior knowledge, which forms the foundation. By teaching students this foundational information, it becomes easier for them to remember and understand new concepts.

Specific outcomes or objectives

The next step is to define specific outcomes or objectives. Before starting a session or class, it is vital to share the course outcomes with the students. This is of utmost importance in the classroom. Additionally, it is crucial to ensure that teaching is tailored to the learners' level, which can be analysed by considering ranking information, mentorship information, previous semester scores, and other factors. In a class, students may have varying intellectual abilities, with some being more intelligent than others. Considering this, teachers need to design a teaching mechanism that caters to these differences. This is highly important. Teaching should progress from simple to complex. Teaching should also move from concrete to abstract and from general to specific. By relating the subject matter to the surrounding world and making correlations, it becomes easier for students to understand and remember. Teaching should move from known to unknown, and practice should be given for perfection. By the end of the session, a certain number of tasks should be identified and assigned to

respective groups. Through practice, students can become proficient and develop into professional engineers or perfectionists. Bloom's taxonomy, which is a classification system used to define and differentiate different levels of human cognition, consists of three categories: cognitive skills, the affective domain, and the psychomotor domain. These categories represent the basic levels of learning for students. In the traditional education system, there has always been an emphasis on rote learning, which involves memorizing content without purpose and is not beneficial for society. Therefore, understanding the subject matter is crucial. Real-life examples can be used to aid comprehension. When selecting examples, it is important to choose relevant applications and share them with the students. It is essential to ensure that these examples or applications align with the students' ideology. Thus, correlating the subject matter with real-world scenarios plays a vital role in the development process. If a topic can be correlated with a real-world example, it becomes easier to understand and remember.

These are the sequential steps one needs to follow when teaching in the classroom. This is what constitutes a great teacher. Emphasizing conceptual understanding over rote learning is essential. This approach should primarily be followed because rote learning is solely focused on exam scores and can be avoided or minimized by introducing conceptual learning methods. A conceptual learning environment fosters creativity, critical thinking, logical decision-making, and innovation among students. It also promotes ethics, human and constitutional values, as well as life skills such as communication, cooperation, and teamwork. These skills can be developed through activity-based or experiential learning approaches.

What is meant by critical thinking and creativity? The best way to understand this is through an example. In a court, when two lawyers engage in discussions, they apply their critical thinking abilities. They may present arguments, which is an essential part of critical thinking. If the conclusions reached at the end of

their discussion are unsatisfactory, they continue to rethink and reshape their arguments, which demonstrates creativity. Critical thinking and creativity are crucial for enhancing logical decision-making and fostering innovation. For lawyers, critical thinking is a valuable skill, as they cannot achieve their desired outcomes without it.

Creative thinking and critical thinking involve activities such as analysing, breaking down, comparing, categorizing, listing, sequencing, and ranking, among others. For instance, consider a situation where five individuals are accused. It becomes necessary to determine the ranking of each candidate. In court proceedings, one may often hear terms like A1, A2, and A3, which signify rankings. This ranking process relies on critical analysis. Without critical analysis, it would not be possible to assign the rankings A1, A2, or A3. On the other hand, creative thinking involves imagining, inventing, changing, designing, and creating. When weaknesses are identified in a discussion, creative thinking comes into play to find ways to address or mitigate those weaknesses. This combination of creative and critical thinking is integral to the entire scenario.

Both critical thinking and creativity are equally important; it's not a matter of prioritizing one over the other. Problem-solving involves the enhancement, design, and refinement of laws. Consider another example from practical experience: everyone has personal experience at home. Suppose a person is constructing a house and need to decide on the colour of the paint (Figure 1). Even in this case, critical thinking and creativity come into play when choosing the colours for our home. How does one approach this? Simply think about the process of painting. The person needs to creatively plan the colours and their composition, taking into account critical analysis.

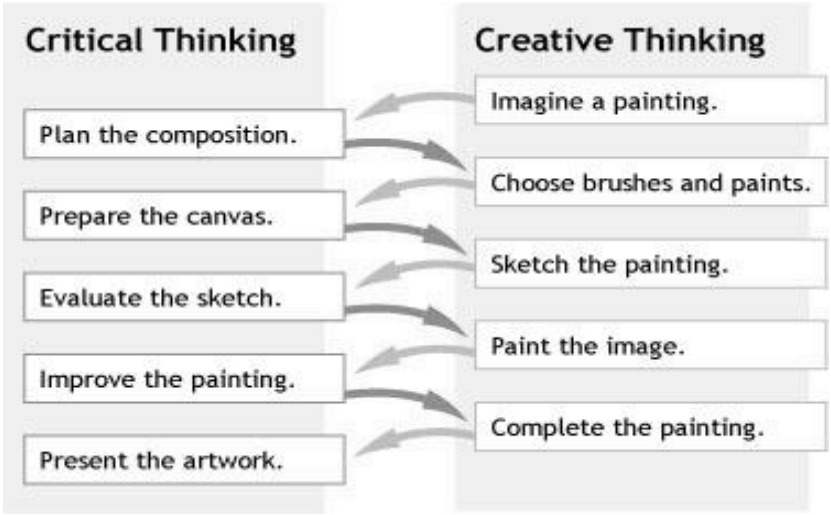

Figure 1: Critical and Creative thinking

Once they have planned the composition, the selection of brushes and paint brands becomes crucial for creating a beautiful and appealing house. This is where creativity should be applied. After identifying the brushes and paints, one meticulously prepares the canvas through critical analysis and then proceed to sketch the painting. Once the sketch is complete, it is presented to others for feedback. During the initial stages of construction, one may often apply three or four colours to the front side of the building. This is done to evaluate and determine the right colour composition for the house.

If the evaluation brings satisfaction, one of the colours can be selected. However, if there is dissatisfaction, the image can be repainted. If still unsatisfied, through critical analysis and creativity, alternative compositions can be explored. Once the process is redone, the painting can be presented to various experts for analysis, evaluation, and further improvement. This iterative process of critical thinking and creativity allows for continuous refinement of the painting. Therefore, this combination of critical thinking and creativity plays a significant role in achieving the desired outcome.

Identification of problem

The next step of conceptual understanding begins by identifying a problem that one routinely encounters in teaching. The first task is to recognize the problem at hand. Imagine that there are some specific cases one wants to address. In such situations, the initial step is to identify the problem itself. Once the issue has been identified, one proceeds to determine the possible reasons behind it. It is essential to note down all the reasons. Subsequently, one explores the strategies to tackle the problem. This sequence applies to any kind of case one may encounter.

To better grasp this concept, consider a real-world scenario. In a real-world situation, one should strive to apply educational knowledge. There is a need to reflect upon the competencies one has acquired through education, including knowledge, skills, and values. With these considerations in mind, the problem is defined in relation to a specific case one wishes to address. Next, one engages in brainstorming sessions with relevant experts to generate potential solutions. Among the various solutions proposed, one needs to identify the most appropriate one. This selected solution becomes the course of action that must be presented in court. If the solution proves successful, it brings satisfaction. However, if the outcome is unfavourable, one may need to seek alternative approaches.

This iterative process demonstrates the overall solution's progression

Now, this process can be applied to a specific example. Consider four ways to teach students about personal hygiene. These methods include lecturing (providing information), demonstrating (showing examples), facilitating application (hands-on practice), and promoting discovery (allowing students to explore and figure things out). Following this sequence ensures that students can truly comprehend the concept.

Similarly, in one of the courses, one may select a topic and approach it using the same methodology. Assign the topic to a specific group of students, allowing them to engage with it. For instance, consider teaching problem-solving through outcome-

based education (OBE), emphasizing conceptual understanding rather than relying on rote learning or exam-oriented approaches. To illustrate, consider the equation y = mx + c as an example. After teaching this equation, one can assess students' understanding by assigning practice problems. Through practice, students can truly grasp the concept.

Now, the question arises: why should one learn this equation to begin with? Without practical applications, the concept becomes meaningless. Understanding the applications of a concept is crucial for students. If they are unaware of how a concept can be applied, their education holds no value. Consider a real-world example to illustrate this. Imagine renting a car. Throughout the rental period, one may engage in various calculations related to the charges. Ultimately, the person ends up paying the bill. This is a common process. However, as educated individuals, why does the person not apply their education to such situations?

For instance, say a taxi service charges a fixed fee of 150 rupees plus an additional 50 rupees for every hour of usage. In terms of education, one can represent this rule as y = mx + c. In this equation, y represents the actual charge, x represents the number of hours, m represents the fixed value of 50 for each hour, and c represents the constant value of 150 rupees. Here, one can utilize the formula y = 50x + 150 to calculate the taxi fare. Instead of relying on random calculations, why not apply classroom learnings? Students may have studied the concept of y = mx + c, where c can be positive, negative, or neutral. This formula can be applied to various real-world situations where there is need to calculate a total or distance, utilizing knowledge and skills.

The same can be illustrated by considering another example: a familiar curry dish prepared at home. If one aims to create an automated curry system, they need to apply problem-solving techniques. There is need to analyse which formulas or concepts from the classroom are best suited for the problem at hand. The appropriate formula is identified as the solution.

The equation Y = mx + c can be suitably applied in this scenario as well. To prepare the curry, one requires specific ingredients denoted as X1, X2, X3, and so on, up to Xn. Additionally, each ingredient is used in a finite quantity, not an infinite amount. Thus, one can express the process as W * X1 + W2 * X2 + … + Wn * Xn + b. What does 'b' represent? Typically, after the curry is cooked, it is taste-tested. Any deficiencies or missing ingredients can be rectified by adding the required ingredients, represented by 'b'. The value of 'b' can be positive, negative, or neutral. This teaching methodology is beneficial in the classroom, as it helps students understand, apply, analyse, and evaluate concepts, ultimately enhancing their creative thinking skills.

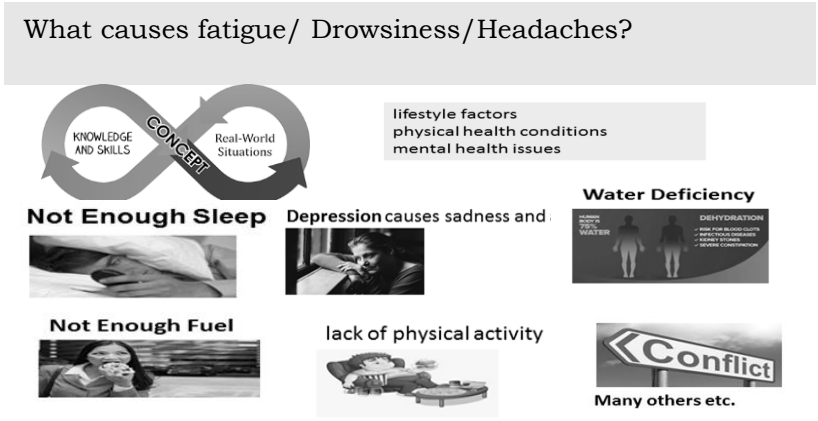

Figure 2: What causes fatigue/ Drowsiness/Headaches?

The previous example shown in the figure can be examined, which pertains to the COVID-19 pandemic situation. The formula discussed earlier can also be applied to real-life

management systems. What causes fatigue, drowsiness, or headaches, for instance (Figure 2)? Typically, when faced with such issues, people tend to immediately search for a tablet as a solution. But why rely solely on tablets? Why not seek a better, preventive solution? This is where education comes into play. The purpose of education extends beyond mere earning; it helps in maintaining a healthy lifestyle. In this regard, what should one do? What are the essential factors that contribute to the overall health?

One factor is lifestyle, followed by physical health condition, and lastly, mental health issues. These three factors should be the primary focus when addressing health concerns. If, after considering these factors, one is still unable to find the right solution, then resorting to external medicine becomes necessary. However, relying solely on artificial medicine is not the ideal approach. Medicine serves its purpose up to a certain extent, but it should not be solely relied upon for prevention. Medication provides an instant solution, whereas one should strive to find preventive measures.

Now, there can be exploration of the causes behind these issues. The first and most significant cause is lack of sufficient sleep, as supported by scientific evidence. Sleep plays a vital role, as it allows sensory neurons, motor neurons, and interneurons to enter an inactive mode, facilitating the healing process within our bodies. Hence, sleep holds immense importance.

When something is perceived, the senses capture the information, which is then transmitted to the motor system and translated into actions. This process continues in a cyclic manner. Thus, ensuring an adequate amount of sleep is of utmost importance, which is ideally around 7 hours. Based on my practice and experimentation, it can be assured that having less than 4-5 hours of sleep may make one more susceptible to illnesses like COVID-19. It is evident that a minimum of six hours of deep sleep is crucial. Those who can consistently achieve such deep sleep for six hours can lead healthier lives without falling prey to diseases.

In this modern generation, people often fail to maintain a balanced and nutritious diet, either consuming the minimum quantity when they dislike the food or overindulging when they enjoy it. This results in an imbalanced diet. It is crucial to ensure that a diet is both balanced and of good quality. Another factor that contributes to health issues is depression, which leads to feelings of sadness and anxiety. Comparing oneself to another, observing their progress, and being influenced by their opinions all have a significant impact on one's well-being. Lack of physical activity is another concern. Teachers can consider themselves fortunate to have regular physical activities through classroom engagements. This can be considered a form of yoga or meditation, helping them avoid unnecessary stress. Water deficiency is another aspect to consider. Approximately 70% of human bodies consist of water. However, many cannot maintain an adequate daily intake of water. It is crucial to consume a minimum of three to five litres of water each day, depending on one's individual needs and strength. Water is necessary to prevent dehydration. There are practical examples of water deficiency, particularly concerning pregnant women. When they experience discomfort during pregnancy and seek relief or treatment from doctors, they are often advised to drink a glass of water or other hydrating beverages like pineapple or apple juice at regular intervals. This indirectly emphasizes the importance of maintaining an adequate water intake. During the summer, it is a scientific fact that people tend to experience back pain. This can be attributed to insufficient water in their bodies. Therefore, it is vital to prioritize adequate hydration. Some individuals also experience back pain during the transition from winter to summer.

Furthermore, numerous conflicts and issues arise among family members, which also contribute to the problem. Therefore, in this regard, one must inquire the underlying cause. Fatigue, drowsiness, and headaches are some of the issues one needs to analyse in relation to these conflicts. Such analysis serves as a preventive measure, rather than solely relying on taking medication. By examining these parameters over a period of 15, 20, or 30 days, one can identify the most significant factors and

focus on addressing them. This approach can bring about remarkable changes in lives, emphasizing its importance.

During the COVID-19 situation, many individuals failed to maintain adequate hydration levels, resulting in a higher susceptibility to the virus. When people sought medical advice, doctors often mentioned a reduction in their immunity levels. However, not many people know how to calculate their immunity. Immunity is a commonly discussed topic, and lacking sufficient immunity can make individuals vulnerable to not only COVID-19 but also other diseases. To calculate immunity, refer back to figure 2. The formula $y = mx + c$ was used. In this case, consider immunity or energy as $y = W1 \times X1$. For instance, X1 can represent sleep, X2 the quality of food, X3 depression, X4 physical activity, X5 water deficiency, and so on.

After calculating these factors, the bias value 'b' in the equation represents vaccines like Covaxin, Covishield, or other medications. This bias value shall be positive, negative, or neutral.

Next, the identification of research and how to identify the research problem. Identifying the research problem involves determining the initial issue to be addressed. It requires conducting surveys of available literature, including legislative materials such as subordinate legislation, notifications, and policy statements. Additionally, examining decisional materials, including foreign decisions, methods of discovery, case precedents, and tracing the history of important cases while ensuring they have not been overruled, is essential. This helps in discovering judicial conflicts related to the research problem and the reasons behind them.

Moreover, one needs to prepare the research design specific to the identified problem. The first step is formulating the research problem. Then, there is a need to revise tools and techniques for data collection. Collecting data is a crucial initial step for the research problem, and it involves considering multiple possible cases and designing a concept or methodology based on them.

Methodologies for collecting statutory and case materials, as well as juristic literature, are important. Historical and comparative research materials are also utilized, and by considering previous information and conducting comparative studies, one can identify the pros and cons and make relevant observations.

Once the observations have been made, one needs to proceed with various steps in the research design process. This includes conducting questionnaires, interviews, or connecting information, developing use case studies based on the observations, and defining sample procedures. Scaling techniques and jurimetrics also play a significant role, as well as utilizing computerized research tools like Lexus and Westlaw. Additionally, the classification and tabulation of data, along with the use of data collection cards and rules for data analysis, is crucial. These sequential steps are essential for preparing a comprehensive research design.

Learner-centred approach

Now, coming to the learner-centred approach, which differs from the traditional teacher-centred approach. The learner-centred approach emphasizes utilizing diverse methods that transform instructors from mere information providers to facilitators of student learning. This approach aims to provide a platform for active learning by assigning meaningful activities to students, which is particularly crucial in the current scenario. Student-centric methods, such as experiential learning, participative learning, and problem-solving methodologies, are employed to enhance the learning experience. However, it is important to select and adapt these methods based on the specific requirements and objectives of the course, rather than incorporating all of them indiscriminately.

During summer internships or any available breaks, it is crucial to introduce practice-oriented internships that allow students to apply their classroom knowledge in real-world settings. This provides them with the opportunity to develop specific skills and gain practical experience, which is highly valuable. Rather than confining students to the classroom, it is better to expose them to external environments where they can acquire hands-on training, expand their knowledge, and enhance their career prospects. Engaging in internships also enables students to establish networks and receive guidance from professionals in their respective fields. Encouraging internships fosters real-world practice in a professional setting, which is essential for their growth. Now, it is imperative to distinguish between the student-centred and teacher-centred approaches. The teacher-centred approach primarily focuses on the instructor and the completion of topics. However, the student-centred approach emphasizes both the students and instructors. It involves interactive communication between the instructor and students, where information is gathered from both parties to ensure fulfilment. In the student-centred approach, students are encouraged to engage in active interactions with both the instructor and their peers, moving away from a passive learning environment. This approach aligns better with the present educational landscape, as it facilitates collaborative learning and interaction among students.

Perhaps every 30 or 50 minutes or even as a daily strategy, students predominantly work individually in the teacher-centric approach. This approach implies that students study independently, write examinations, and ultimately earn their degrees. While this method has its merits, there must also be encouragement of students engaging in activities where they can collaborate in pairs, groups, or work alone, depending on the purpose of the task. It is important to provide students with choices and options within the traditional education system. By allowing them to select topics aligned with their interests, teachers can guide and support them effectively. In the student-centric approach, both students and instructors evaluate learning outcomes, which deviates from the conventional model

where only instructors assess student progress. This evaluation process is a crucial aspect of the student-centred approach. Unlike the quiet nature of a teacher-centric classroom, a student-centred environment tends to be more lively and bustling with activity, as interaction and engagement are encouraged. Overcoming the challenges associated with increased interaction is a task that teachers must tackle. Rather than being mere providers and organizers of information, teachers in a student-centred approach take on the roles of guides, mentors, and assistants, aiming to nurture students into competent professionals. It is important to understand the disparities between student-centred and teacher-centred approaches. In a teacher-centred teaching style, reliance on textbooks and direct instruction is emphasized. However, in a student-centred approach, real-life examples are highlighted, and practical applications are integrated into the learning process. For instance, the concept of Y = mx + c has been applied to various practical scenarios.

The second example is the automation of kitchens, and the third one involves calculating human energy or determining human immunity. To effectively teach these concepts, it is crucial to highlight relevant real-life examples. Without understanding where and how to apply these concepts, students may question the relevance of learning them. For instance, if a person is considering purchasing an item for their home, they would want to know its practical application before deciding. Teachers need to learn the concepts themselves and then identify real-life examples that demonstrate their significance.

It is important to engage students by presenting situations that are relatable, interesting, and relevant to their lives.

On the other hand, the teacher-centred approach often relies on rote learning, which entails repetition without truly understanding the material. However, in the present day, memorizing information without comprehension holds limited value. Nowadays, with the availability of information at one's fingertips, it is crucial to shift from rote learning to

understanding. Instead of simply memorizing problem-solving steps, adopting a student-centred approach encourages experiential knowledge and problem-solving methods. By allowing students to explore and experiment, they can implement their trial knowledge, making it easier to comprehend and apply prior knowledge.

LCM employs an open-ended approach to instruction, allowing for multiple or complex answers. In open-ended instruction, each problem is treated as a unique case, drawing from students' previous experiences and considering all possible solutions. Students are not simply guided toward the correct solution. The goal is to identify, organize, and compare these solutions in order to find the most relevant one for the current scenario. This approach holds significance regardless of whether one is a health specialist or not. Therefore, it is crucial to explore all possible solutions.

Students are encouraged to compare, discuss, and ultimately select the best solution for a given problem. This process should be conducted in an open-ended manner, involving discussions with various experts. It aligns with the principles of inquiry learning. Learning is driven by questions, problems, or challenges that students wish to address. Hence, one should foster students' curiosity and facilitate their problem-solving process.

Experiential learning

Another effective approach is experiential learning, which offers authentic learning experiences. It involves working with real objects and utilizing genuine sources of information. Concrete learning experiences are considered satisfactory at this level. To ensure successful learning, teachers need to create a real-world context with the help of simulation mentors. Mentorship plays a vital role in achieving exemplary learning outcomes, going beyond the confines of the classroom and addressing real-world issues and problems. When designing a course, it is crucial to align teaching methodologies and understanding processes with

the desired course outcomes, such as intellectual property rights or insurance policies.

In order to transform classrooms, experiential pedagogy focuses on various teaching and learning practices. This includes encouraging students to ask questions, fostering student inquiry, introducing game-like processes, conducting interviews and discussions, and investigating through experiments, case studies, field work, roleplay, simulations, and presentation analysis. It is important to expand focus beyond the classroom and evaluate various dimensions of learning. This holistic process emphasizes learner competencies, such as resourcefulness, initiative-taking, self-responsibility, creativity, resilience, independence, seminar participation, visualization, self-discipline, self-direction, and reflection. Additionally, providing a conducive learning environment that respects learners is essential. They should be treated as more than just students or workers.

Respecting every learner and valuing their differences is crucial. Some students may approach learning in different ways, and one should respect their perspectives when it comes to gathering information and resolving conflicts. If conflicts arise, one can facilitate brain connections through group discussions or organizational methods. It is important to encourage information seeking, initiative-taking, responsibility ownership, teamwork, collaborative work, freedom to explore, acceptance of mistakes, and fostering a positive relationship culture that promotes care. These experiential aspects are essential for transforming classrooms. However, not many instructors truly focus on all these elements.

Now, consider why there is a need to shift from a teacher-centric approach to a student-centric one. The goal is to cultivate students who excel in problem-solving, critical thinking, and creativity. To achieve this, one must move away from memorization and instead focus on making sense of information. Therefore, shifting to a student-centric approach is necessary to enhance student engagement.

Information and Communication Technology

Information and Communication Technology ("ICT") plays a significant role in various domains, including education, administration, and e-government. ICT has undergone remarkable development in the last decade of the 20th century, transforming processes and practices across different aspects of human activities. It has become an indispensable tool in court proceedings, administrative matters, and daily life. Nowadays, if one encounters issues with platforms like Google or Facebook, it can disrupt sleep. ICT encompasses technologies that facilitate the transmission, manipulation, and storage of data, making communication more efficient and convenient.

ICT provides the advantage of easily manipulating and storing data according to specific requirements, allowing for quick access and retrieval. This advantage emphasizes the importance of encouraging the use of ICT tools.

Speaking of ICT tools, teachers have experienced various tools throughout time, such as blackboards, overhead projectors ("OHPs"), phones, pagers, TV channels, VHS tapes, wireless phones, LCD screens, PC whiteboards, and interactive panels. In the present context, one can engage students by creating forums or blogs and providing mentoring, reflecting the practices of the current generation. Adapting to ICT tools is essential for instructor existence in society. It encompasses satellite systems, computer networks, hardware, software, and more.

Communication, at its core, involves transferring information from one place to another. In the past, traditional mechanisms like postal letters were commonly used. However, today there are various forms of communication such as synchronous communication and asynchronous communication. Exchanging information between computers is a significant aspect of communication.

In this context, communication entails the exchange of information between individuals. Mobile communication is an

example of this, where information is transmitted, stored, retrieved, and decoded. When conversing over the phone, the steps involved include speaking, encoding the information into a specific coding language, transmitting it to the intended destination, receiving and decoding it, and finally storing it on the recipient's device for viewing.

These are the essential steps in the communication process: encoding, transmitting, receiving, decoding, storing, and retrieving. These steps are applicable to various forms of communication, such as phone communication, mail communication, or even social networking.

ICT plays a crucial role in legal education. Electronic legal education utilizes information, communication, and instructional technologies to enhance students' understanding of the law and provide teachers with effective teaching tools and environments. The COVID-19 situation has demonstrated the significant role of ICT in ensuring the continuity of education. Many students successfully completed their studies with the help of these technologies, highlighting their importance for the future generation.

With the rapid expansion of the Internet, numerous law schools and faculties are transitioning their education and training to online platforms. In the upcoming years, there will likely be four types of degrees: offline, online, blended, and digital. Digital degrees, like the ones offered by IIT Chennai, allow students to fulfil credit requirements from the comfort of their homes. Acquiring ICT skills is crucial as teachers in the education sector to future sustenance.

Synchronous communication, such as video conferencing and chat, occurs in real-time, while asynchronous communication, like email, involves exchanging pre-recorded messages and documents. Traditional education has limitations in terms of classroom size and synchronous interactions. In contrast, ICT education has the advantage of scalability and the ability to

facilitate both synchronous and asynchronous modes of teaching, including online teaching.

Traditional education often relies on textbooks and libraries, whereas ICT education enables multimedia content and simulations, making learning more engaging and comprehensible. Digital access to information has replaced the need for physical libraries, allowing individuals to access data from anywhere. The demand for ICT skills is evident, and it is essential to consider acquiring these skills in the coming generation.

Teaching aids, including ICTs, play a vital role in effective education. The saying "I hear, I forget" emphasizes that verbal descriptions alone are insufficient for learners to remember and understand. Visualization of objects, especially in science and technology, is crucial for better comprehension. Seeing and visually experiencing knowledge leads to more colourful, accurate, and lasting understanding. Visual learning accounts for approximately 80% of knowledge acquisition, highlighting the significance of incorporating visual aids into teaching methods.

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NATIONAL EDUCATION POLICY 2020: FOR A GREATER INDIA

Dr. Hemlata Joshi*

Introduction

Going through the pages of history, we often encounter the title '*Sone ki Chidiya*' used for the great nation of India. India was once an affluent civilization indeed, and the roots of our success lay in our wisdom. Several documents have shown that India's ancient education system was marvellous before McCaulay decided to play it down, so as to make better slaves of Indians. A lot of the educational tenets that were injected into the Indian educational system by McCaulay have been followed till very late, one of them being rote learning and the other being excessive focus on sciences and mathematics, which were the subjects of the West in the 1830s. Sanskrit and the philosophies which were the mainstay of Indian land were sidelined then, about two hundred years ago.

The Government of India has no doubt made sincere and visionary efforts post-independence to implement new measures in its system of education, specifically in the years 1968 and 1986. However, it is also a well-known fact that the gap between theory and practise is a huge one and requires continuous rigorous efforts on part of all the stakeholders. Despite making efforts, education could not be made all-inclusive and accessible at the grassroot level. The reasons for the limited success of these education policies are of course numerous and varied. The much needed National Education Policy ("NEP") 2020 has appeared 34 years after the last educational policy of 1986. Any society and its educational system need to walk hand-in-hand in order to face the challenges of the present in an effective

* Assistant Professor, Department of Psychology, Jai Narain Vyas University, Jodhpur.

manner and become future ready. The rate of change in society, economy and other domains of life, mostly driven by rapid technological changes have been acceleratory. Information technology has brought about a revolution in the way information is being disseminated and the manner in which it can be utilized. Education systems cannot maintain distance with it. With most of the higher education and research being driven by the digital world, it was high time for India as a nation put in efforts to provide directions for the re-structuring of its educational systems, setups, policies and institutions. Thus, the NEP 2020 was born amidst the highs of the pandemic. 29th July, 2020 was a historical day as NEP 2020 - the first education reform of India in the 21st century -came into being. The 66-page draft was also significant as it was probably the first time ever that a public policy document of such significance was prepared after incorporating suggestions from all the stakeholders and public in general from across the country. Indeed, the ideas and ideals envisaged in the document are of real significance and shall lay the foundation for a greater India.

With its five basic ideals of affordability, quality, access, equity and accountability, the NEP 2020 seems to be quite in line with the SDG 4 of 2030, the United Nations agenda for sustainable development. India intends to be an enthusiastic propagator of the 17 SDGs of the United Nations 2030 agenda and has tied up its efforts with the international agencies for the same. The SDG 4, which is quality education, has the broad agenda of imparting inclusive high-quality, life-long education by creating novel, multi-disciplinary, flexible, accommodating, and student-centred learning opportunities for all by the year 2030. In order to cover the large canvass of the Indian sub-continent where diversity of cultures and classes are so intricately inter-woven, no single linear approach could prove to be successful in meeting the demands of a unified progressive nation under the canopy of the NEP 2020. The educational ecosystem of India is targeted to be reformed for better quality and a fairly accessible inclusive education for all by 2030. Some of the key instruments in bringing about this change would be teaching-learning in a local language, developing socially tenacious environment at

schools, giving special attention to socially & economically disadvantaged regions & groups such as tribal communities, transgender children, economically backward communities, etc. Use of new pedagogical techniques shall help realize the objective of quality education enhancing student engagement and teaching-learning effectiveness. The idea of a gender inclusion fund ("GIF") shall ensure access to quality pre-primary education for all, which is in sync with SDG 4.2. The National Education Technology Forum ("NETF") shall impart vocational and technical skills to young children, sixth grade onwards. Thus, it shall help achieve SDG 4.3 target about the promotion of vocational and technical education. The goal of enhanced relevant skills in people for financial success as envisaged in SDG 4.4 shall be accomplished through increase in the enrolment ratio in higher education. Also, the internationalization of higher education and the concept of the academic bank of credit shall help ensure quality education across the globe. Capacity building and developing digital infrastructure shall help achieve equity in education by popularizing internet-based e-learning. This is in keeping with the SDG 4.5. The National Foundation of Literacy and Numeracy ("NFLN") has been allocated the task of imparting numeracy and literacy skills by grade three. This is much in line with the SDG 4.6 for universal literacy and numeracy. Thus, the NEP 2020 holds the potential to help India achieve SDG goals and set the nation on the forefront in the global scenario. (Kumar et al., 2021)

The NEP 2020 is a policy document that has redefined the meaning, purpose, and pedagogy of the Indian educational system as a whole. It was indeed high time that India as a country did something to bridge the gap between the knowledge being imparted through degrees and developing the skills which are required for successful professionals in job or field. The NEP 2020 definitely brought about the solution, but to what extent that solution is effective is a question to be answered with the passage of time. Notably, the execution of this policy is yet to be completed across the nation. That, however, is no obstacle in analysing the various facets of the policy.

NEP 2020: Parting Ways with the Previous System

The educational system after Independence was not thoroughly restructured and much of what was being taught in schools and higher educational institutions related to gathering of information, which in no significant manner made the students ready for the job market. The NEP 2020 not only addresses these lacunae but has a host of other significant features which make the NEP document more democratic in nature. Some of its key features are as follows:

1. Holistic Education: Probably there was a time in India during the pre-British era when students were made to stay in *gurukuls*, where they not only grew academically but were also trained in other facets like personal and social responsibility, self-restraint, balance etc. The NEP promotes a closer vision to that time, of looking after the all-round development of the students, including their cognitive, emotional, social, and physical aspects, thereby ensuring the creation of holistic and sensible individuals who can take care of themselves and their world.
2. Access to Education for all: The Government of India has provided facilities for education for all in the formative years of life through its various constitutional means like the Right to Education, 2009. NEP 2020 continues to work on those same lines. It is a well-established fact that access to proper education early on determines children's learning outcomes in the long run. Thus, NEP emphasizes on strengthening the foundation of learning. Unlike the previous system, the NEP focuses upon quality education of 3 to 6 years old children as well. Thus, pre-primary system gets strengthened.
3. A Cognitive Model: The NEP 2020 is quite in line with the latest research on child development when it talks about the 5+3+3+4 structure. The school education has been divided into foundational (ages 3-8), preparatory (ages 8-11), middle (ages 11-14), and secondary (ages 14-18) stages. This is in place of the previously running 10+2

structure. (Suggestions Invited for Implementation of National Education Policy, 2020 – Innovate India, n.d.)

4. Linguistic Transformation: The NEP 2020 emphasizes upon the promotion of multiple languages. English has been retained; however, emphasis has been laid on the teaching of regional languages and Hindi.
5. Away from Exam Orientation: The NEP 2020 endeavours to encourage critical thinking, problem-solving skills and a multidisciplinary approach as opposed to rote memorization and exam-oriented learnings of the previous system.
6. Open and Flexible: The multidisciplinary approach of NEP is believed to make the NEP popular amongst students, especially those in high schools and higher educational institutions. Students are allowed to choose subjects cross various streams. This has been a long-awaited reform. Vocational education has been emphasized and the key interests and talents of the students have also been considered.
7. Technology-aided Education: The use of technology in education has been recognised in the NEP 2020. Use of technology in teaching and learning processes, assessment, and teacher training has been considered. Use of technology shall surely advance the learning experience of the pupil.
8. Teacher Development Programs: The training and professional development of teachers has been considered to be of prime importance under the NEP 2020. Continuous learning and up-skilling of teachers has been focused upon, as the quality of education shall ultimately depend upon the quality of teachers.
9. Reforming Higher Education: The establishment of multidisciplinary institutions, bringing research and innovation to the forefront, and promoting internationalization are the means by which the NEP 2020 proposes to bring about drastic changes in higher educational institutions. These reforms shall not only improve the quality of higher education in India but shall

firmly establish Indian institutions as among the best in the world.

10. Inclusive Education: The NEP 2020 lays a strong emphasis on inclusivity and accessibility in education. It aims to ensure equal opportunities for all students, including those from marginalized communities, economically disadvantaged backgrounds, and those with special needs. The policy promotes the use of appropriate pedagogical practices, learning materials, and infrastructure to create an inclusive learning environment.
11. Research and Innovation: Collaborating between the academia, industry, and research institutions for the purpose of research and innovation is one of the novel features of NEP 2020. Establishment of research and development centres, bringing research-based practices into the curriculum, and fostering an environment of learning and exploration are the focal points under the NEP 2020. The same shall ensure quality education in India and bring India to the forefront on the global stage.
12. Skill Development: With rapid changes in the economic scenario and dramatic transformation in the nature of jobs, the gap between theoretical knowledge being imparted to graduates at higher institutions and the on field demands of rather specific work skills has widened significantly. The NEP 2020 has addressed this gap and has focused upon skill development.

Thus, the NEP 2020 holds great promise for the future, however, it must face rigorous challenges of effective implementation, as it lacks on the fronts of funding, infrastructure, and capacity-building of teachers and educational institutions; moreover, there exist stark regional disparities across the nation. Stakeholders from across the society, such as educators, policymakers, parents, students, and institutional administration need to play a crucial role in the effective implementation of NEP 2020. Implementation of the policy shall require a continuous dialogue, collaboration and feedback system so as to be able to address the diverse needs and concerns of all concerned.

These are some of the highlights of the NEP 2020, through which it departs from the traditional system. There are some schemes and systems that may be considered for discussion here, for throwing better light on the strengths of NEP 2020.

Academic Bank of Credits

One of the very unique and useful features of the NEP 2020 is the Academic Bank of Credits ("ABC"). Its main advantages may be understood under the following headings:

1. Flexibility and Personalization: The ABC is a new-age concept that allows learners to collect credits for their courses. The credits maybe collected from across any of the institutions in India that have been linked to the ABC program. Through this, the students can create their unique learning experience by choosing their courses, in accordance with their interests, goals, and career aspirations. Thus, the ABC enables a kind of tailor-made curriculum which is in accordance with the individual's needs and preferences.
2. Transferability of Credits: The credits earned by the students can be transferred across institutions. Different educational providers, like universities, colleges, online platforms or vocational institutions have been included under this feature. Naturally, the students shall be keen to benefit from such a facility and at the same time have the satisfaction to have explored varied courses and also institutions.
3. Unlimited Learning Avenues: The ABC encourages lifelong learning by recognizing and valuing learning that takes place outside traditional educational institutions. Students are granted credits for various forms of learning, work experience, internships, community service, online courses, or professional development programs. Indeed, it is a wonderful means of promoting both lifelong learning and skill development, which is the need of the hour.
4. Cost and Time Efficiency: The credit bank system can help students save both time and money. As a result of the provision of transfer of credits from one institution to another the student is able to preserve his resources, be it time or money.

5. Recognition of Prior Learning: Prior learning and related experiences are valued under the ABC. Students with prior knowledge or skills have the advantage of directly enrolling into advanced courses instead of undergoing the basic courses again. In this way students coming from varied educational channels can continue to learn and explore.

Overall, the ABC system empowers students by offering them greater flexibility, mobility and recognition for their learning achievements. It promotes lifelong learning, facilitates efficient progression through education, and acknowledges the diverse ways in which individuals acquire knowledge and skills.

Choice Based Credit System

A choice-based credit system ("CBCS") permits students to choose courses based on their interests and capabilities. Some of the key benefits of a choice-based credit system for students in higher education under the NEP 2020 are:

1. Customized Learning: For decades, the education system in India has been such that a learner does not have many choices to select from; often, students are forced to choose one of the streams like science, commerce, arts etc. The CBCS is a novel scheme that allows students to design their learning experience according to their interests, strengths, and career aspirations. The CBCS shall prove to be a key instrument in fostering the all-round academic growth of students through the interdisciplinary learning opportunities it provides.
2. Self-Paced Learning: Under the CBCS scheme, students are given an opportunity to decide the pace at which they would like to earn their credits, across the various semesters. Such a plan can be made while keeping in mind one's learning abilities. Also, this shall help reduce academic stress among the students.
3. Upskilling for Employability: The CBCS system promotes courses that have practical implications and can help students become job ready. Critical thinking, problem-

solving, communication, teamwork etc. are some of the skills that NEP 2020 focuses upon.

4. Credit Transfer Facility: The CBCS permits credit transfer between institutions (through the ABC), which shall prove to be a boon for the students. A student shall have the opportunity to pursue his or her courses from multiple institutions. The CBCS is a great means to draw the higher institutions across the country closer to each other through MOUs and other collaborations. This shall also help integrate the resources and expertise for the better learning and development of the pupil.
5. Quality Oriented System: The CBCS requires institutions to keep revising and updating their courses from time to time. The times are technologically driven and there are rapid changes in society and world. Innovative and relevant courses shall be required to be introduced from time to time, so as to keep the pace of learning and education in line with demands of the world.

As discussed, the CBCS is a very useful tool for the educational world; however, its successful implementation is dependent upon various factors. Careful planning, academic counselling of students, effective credit transfer system, and timely faculty training are all a must. CBCS envisages fulfilling the primary objectives of NEP 2020 with regard to quality, flexibility, and relevance. The CBCS is, therefore, a great tool for promoting interest-based comprehensive quality education over a wide span. The all-round development of the youth is a certain output of CBCS.

Learning Objectives and Outcomes

The NEP 2020 holds the vision of accessible quality education with the tenets of flexibility and relevance for the masses across the country. Any teaching-learning experience benefits from clear-cut purpose and objectives, laid down at the beginning. NEP 2020 too, emphasizes upon course objectives and outcomes in order to ensure its successful implementation.

1. Clarity and Alignment: Course objectives and outcomes are clear statements of what the students shall get to learn and achieve through a particular course. These help align the curriculum, methodology, and assessments.
2. Holistic Education: NEP 2020 holds the vision of making the pupil fully equipped with the right knowledge, skills, and attitude so that they are successful at work and basically ready to face the competition in the outer world. Course objectives and outcomes are framed keeping in mind the desired competencies. These also help provide direction to the teachers while they design their lectures and other teaching tools.
3. Student-centred Approach: The NEP 2020 is revolutionary as it parts ways with the age-old pattern of education. Herein, the individual's needs, interests and abilities are kept at the forefront. Course objectives and outcomes can prove to be useful tools in helping children set goals, record their progress, and take full responsibility for their learning journey.
4. Student Assessment: Course objectives and outcomes are a clear-cut reference point that enables the teachers to appropriately assess the performance of the student and also the teaching-learning strategy employed in delivery of knowledge. To what extent a student is able to achieve the intended learning outcomes can be deciphered with the help of carefully designed assessments, which are in tandem with the course objectives and outcomes.
5. Clarity of Learning Goals: The course objectives and outcomes are also very helpful in promoting transparency with regard to what the students are expected to learn. This is helpful for all stakeholders including parents, students, and others in understanding the educational goals of the students. Secondly, these also enhance accountability by providing a framework to monitor and evaluate the quality of education provided.
6. Designing the Curriculum: With rapid progress of the knowledge bank, it is necessary to keep reviewing and updating the curriculum from time to time. Course objectives

and outcomes can be the torchbearers for the re-structuring and review of curricula from time to time, at various levels like the state, national, and institutional. The outcomes and objectives shall help the policy executers to never lose sight of the broader mission and vision of the NEP 2020.

Thus, course objectives and outcomes play a vital role in implementing the goals of NEP 2020 by providing a clear-cut framework for teaching, learning and assessment. They align the curriculum with the desired learning outcomes, promote holistic education, and help create personalized learning experiences for the pupil. Additionally, they appropriate assessment and evaluation, enhance transparency and accountability and guide curriculum development and review process.

Conclusion

The NEP 2020 is a comprehensive document and has been discussed at length by the academia, institutions and agencies, and the common people. In the present paper, attempt has been made to present a review of only some of its schemes.

The review in the present paper clearly highlights the fact that NEP 2020 has set the ball rolling for the Indian nation towards having a more widely literate, comprehensively educated, intelligent, and competent population. The NEP 2020 emphasizes on such facets of quality education as better enrolment in higher education, clear and relevant teaching-learning outcomes, and skills-oriented education to the youth. This is expected to give rise to a generation that has potential to understand and deal with the present-day challenges and is capable of adapting to the needs and demands of the future. The NEP 2020 envisions a greater India which is capable of walking hand-in-hand with the world communities for a better, safer, wiser and happier tomorrow. Various programs to address the SDG 4 goals of better adult literacy rate, better gender parity index (in elementary, secondary & higher education), reduced unemployment rate, and increased gross enrolment ratio (GER)

in higher education in India have also been incorporated in the NEP 2020. (MyGov, 2020)

Unlike other policies, which unfortunately often stay limited to existence in just black and white, if the NEP 2020 is brought out into the open and on the field, it will not be an exaggeration to state that India shall thrust ahead forcefully in re-capturing its glorious past as envisaged in the phrase '*sone ki chidiya*'.

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ARE WE LEARNING? GAUGING THE EFFECTIVENESS OF LEARNING VIA CLASSROOM ASSESSMENT IN LAW SCHOOL

Dr. Hardik Daga*

Introduction

Through regular evaluation of students' understanding, advancement, and challenges, instructors are able to customize their instructional approaches to accommodate diverse learning preferences. Formative assessments, which are conducted throughout the learning process, enable educators to promptly adapt their educational strategies. The provision of individualized attention not only effectively attends to the specific requirements of students in a timely manner, but also fosters a sense of active engagement and personal responsibility in their educational progress. Moreover, evaluations can function as motivating instruments, fostering a sense of achievement upon reaching educational milestones. The feedback obtained through tests, particularly when provided in a positive manner, assists students in identifying their strengths and areas requiring further development. Consequently, this enables individuals to assume an active role in their educational pursuits, so cultivating essential self-directed learning abilities that are crucial for continuous learning throughout their lives. This paper examines the fundamental significance of student evaluation within the educational setting and its capacity to augment the efficiency of the learning experience. The authors will also explore the wider scope of assessment, going beyond conventional testing formats to include various approaches such as project-based assessments, peer evaluations, and self-assessments. The utilization of multi-faceted techniques not only enhances the

* Assistant Professor, School of Law, UPES, Dehradun

educational experience, but also reflects real-life situations in which skills are employed in a comprehensive manner.

The principal objective of law schools is to ensure that students acquire the necessary abilities to engage in critical thinking, professional performance, and ethical behaviour, therefore becoming proficient legal practitioners. [1] The primary objective of educators is to foster the process of acquiring knowledge and skills. The process of learning may be seen as a cyclical sequence wherein the educator assumes the role of a facilitator, guiding students through the learning process. Subsequently, students apply the knowledge and skills they have acquired, which is then evaluated by the educator. Based on this assessment, the educator offers constructive feedback to the students, who in turn utilize this feedback to enhance their performance in subsequent tasks. [2]

Teacher feedback is a vital component inside the learning loop. The provision of prompt feedback empowers students to assume responsibility for their own learning by acquiring the required remedial support for recognized gaps in their comprehension, and by adapting their strategies for future learning endeavours. Understanding the extent of students' knowledge and identifying areas of deficiency serves as a catalyst for directing and enhancing students' educational progress. With the intent to maximize the efficacy of the learning loop, it is imperative that students are provided with several opportunities throughout the semester to engage in reflective practices. These instances of reflection enable students to assess their current level of knowledge, identify areas that require further development, and devise strategies to enhance their overall learning experience. [3] Educators ought to partake in a diverse range of activities that

[1] WILLIAM M. SULLIVAN ET AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW (1st edn., Wiley Publishing 2007).
[2] S. GREGORY MUNRO, OUTCOMES ASSESSMENT FOR LAW SCHOOLS 68-69 (Gonzaga University Process 2000).
[3] THE SEVEN PRINCIPLES IN ACTION: IMPROVING UNDERGRADUATE EDUCATION 55 (Susan Rickey Hatfield ed., Anker Pub Co. 1995).

are essential for the facilitation of the learning process. The aforementioned tasks encompass several responsibilities within the realm of academia, such as acquiring a comprehensive understanding of the subject matter, developing educational materials, organizing and executing lesson plans, fostering learning both within and outside the confines of the classroom, actively engaging with students to gain insights, and employing dependable assessment methods.[4] An assessment system that is deemed accurate, trustworthy, and fair is characterized by its ability to effectively evaluate student learning outcomes and enhance the development of learning abilities.[5]

The impact of assessment techniques and requirements on students' learning outcomes surpasses that of any other individual component.[6] According to the latest Carnegie Report, it is evident that there is now a lack of a cohesive endeavour within American legal education to ascertain the optimal use of assessments for the purpose of enhancing the learning experience of law students.[7] The absence of an appropriate program to deliver prompt feedback to students disrupts the learning cycle. The Carnegie Report advocates for the integration of a cohesive evaluation framework into law schools, with the aim of enhancing their ability to cultivate proficient and accountable legal professionals. This article not only advocates for the utilization of assessments by law professors and law schools to enhance student learning, but also offers a comprehensive set of guidelines for effectively implementing assessments. Furthermore, the paper includes specific illustrations of diverse assessment formats.

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[4] JOSEPH D. NOVAK, LEARNING, CREATING, AND USING KNOWLEDGE: CONCEPT MAPS AS FACILITATIVE TOOLS INSCHOOLS AND CORPORATIONS 112 (Routledge, 2nd 1998).

[5]Sullivan, Supra note 1, at 171.

[6] ROY STUCKEY et al., BEST PRACTICES FOR LEGAL EDUCATION: A VISION AND A ROAD MAP 243 (Clinical Legal Education Association ,1st edn.2007)

[7] Sullivan, supra note 1, at 162.

Understanding Assessment

Assessments serve as instruments employed to acquire and record data pertaining to students' accomplishments, competencies, and aptitude.[8] In the context of educational institutions, many choices pertaining to pupils are made by individuals such as instructors, principals, and other relevant stakeholders. Decisions are rendered based on the acquisition of authentic information pertaining to each student, enabling employees to categorize pupils according to their respective areas of excellence. Decisions may be made by utilizing the most pertinent facts available, hence enhancing the precision and impartiality of the decision-making process.

In a broad sense, it may be posited that assessment entails the systematic acquisition of data pertaining to a student's learning and the subsequent formulation of evaluative judgements on the individual's advancement in the acquisition of knowledge and skills. In order to collect facts regarding the performances of students, we employ numerous methods including observation, pen-paper test, projects, assignments, etc. Assessment encompasses both qualitative and quantitative descriptions of students' learning processes. The assessment process is responsible for determining the type and scope of student learning and growth.

Based on Purpose

The regular evaluation of a child's growth is a fundamental component of the teaching and learning process. The assessment of learning outcomes should be conducted in a comprehensive manner. To ensure the creation of an authentic, inspiring, individualized representation of a kid, it is imperative to accord equal importance to both academic and non-academic dimensions. The evaluation process can be categorized based on the range of procedures encompassed within it. The classification of assessments is contingent upon their intended

[8] Children's Health Encyclopedia, ANSWERS (Aug. 7, 2023, 10:04 AM), http://www.answers.com/topic/assessment

purpose. Depending on the purpose, the assessment is classified as follows:

1. Formative Assessment
2. Summative Assessment
3. Diagnostic Assessment

Types of Assessment and Evaluation

Teachers can utilize tests, observations, and worksheets for formative assessment. Students will benefit from continuous performance feedback to improve their learning and rectify misunderstandings. It affects their success and failure equally. A teacher can improve student performance by changing their educational style based on assessment. Since formative evaluations improve teaching-learning, they are typically not included in the final grade.

1. Formative assessment

A powerful instrument in fostering efficient learning among law students is formative assessment. Understanding complicated legal ideas is of utmost significance in the field of law, and formative assessment helps students develop these skills. Students actively participate in the learning process by taking quizzes, participating in class discussions, and analysing real-world cases. Formative evaluation provides a continuous feedback loop that enables the early discovery and correction of mistakes, laying a firm groundwork for more complex legal ideas. This recurrent procedure not only fosters independent study habits but also improves students' grasp of the material. In addition, much as in the real world of law, formative evaluation helps students develop abilities including rapid analysis, persuasive arguments, and flexibility. In the end, with the help of formative assessment, law students may develop into competent legal practitioners with the necessary theoretical knowledge and hands-on experience.

2. Summative Assessment

Summative assessment is employed to allocate grades or certify a student's level of accomplishment upon the conclusion of a course or unit. The assessment is constructed with predetermined educational goals in mind and is employed to evaluate whether pupils have successfully attained the teaching objectives. Educators employ several methodologies for this objective. The assessment methods encompass a range of evaluative tools, including as teacher-generated assessments, standardized exams, project reports, oral examinations, written examinations, students' performance in laboratory settings, and numerous subject-specific activities. Educators have the capacity to document the entirety of the data derived from various sources inside a portfolio or an alternative method, therefore encapsulating the academic progress of individual students. The primary objective of summative assessment is to evaluate and certify students' academic accomplishments. Additionally, it is beneficial to assess and enhance the adequacy of educational objectives and the compatibility of teaching methodologies.

3. Diagnostic Assessment

Prior to commencing any subject or course, it is imperative for an educator to ascertain the level of familiarity and understanding that pupils possess about this issue. It is essential for a diagnosis to be sufficiently precise, taking into account the intended objectives and the potential for localizing symptoms, while also being practical. If a student consistently encounters challenges in their learning, it is advisable to pursue a comprehensive diagnostic evaluation. The focus of diagnostic assessment is on the identification and analysis of enduring challenges in the process of learning. These challenges may manifest in the areas of reading, writing, arithmetic, or any other academic topics. If a student often encounters failure, it is essential for the instructor to recognize that the student may be encountering challenges in their learning process. The aforementioned issues must to be thoroughly examined and addressed in a timely manner. A thorough and inclusive diagnostic assessment can be administered to identify the

specific areas in which the student is experiencing difficulties. A range of observation techniques can also be employed to provide assistance for diagnostic testing. The identification of significant cognitive problems necessitates the involvement of educational psychologists and counsellors. The main objective of diagnostic assessment is to identify the specific regions and underlying factors contributing to pupils' deficits, in order to develop suitable remedial strategies.

Purposes of Student Assessments

There are three primary rationales for the significance of periodically evaluating the teaching competencies of university and college instructors. Initially, it is imperative to acknowledge that a college or university bears a significant responsibility to the society in which it operates and from which it receives its sustenance. This responsibility encompasses two fundamental aspects: the expansion of knowledge's frontiers and the subsequent dissemination of that information. Mechanisms have been devised to systematically evaluate the calibre of research and scholarly work, employing peer reviews and refereed publications. Despite the system's shown lack of dependability in measuring, it is widely acknowledged and embraced within the academic community. The assessment of teaching quality is often seen as a more complex task compared to evaluating scholarship or research. However, this should not serve as a justification for tolerating subpar teaching practices. Furthermore, there is an increasing level of acceptance about the inclusion of teaching quality as a significant factor in staffing choices pertaining to appointments, tenure, and promotion. Relying on hearsay testimony from a limited number of individuals within a staffing committee is seen as an improper approach to making choices. There is a growing need for more dependable information about teaching quality, evidence that can resist challenges made against staffing committee choices. Furthermore, diligent educators have a strong desire to assess the efficacy of their instructional methods for all pupils within their classrooms, as well as explore potential avenues for improvement. Consequently, their interest lies in conducting a

survey to ascertain the perspectives of students about several aspects, including course content, teaching methodologies, library and laboratory resources, and assessment protocols.

Institutional assessments are designed to measure how well children are doing on benchmarks that teachers have determined are crucial to their development as learners.[9] Assessments serve several purposes, including the evaluation and categorization of students, the cultivation of student motivation, the facilitation of employer selection processes, the provision of feedback to students on their academic advancement, and the evaluation of instructors' instructional efficacy. In addition, evaluations serve the purpose of supplying institutional data to esteemed professional organizations such as the American Bar Association (ABA) and the American Association of Law Schools (AALS). Moreover, to a certain degree, these assessments offer a degree of prognostication regarding the likelihood of achieving success in subsequent legal employment.[10]

Existing Assessment Techniques

The Final Exam is a Pass or Fail with No Retakes and No Feedback

In the majority of law school courses, particularly during the crucial initial year, the primary form of evaluation that students often encounter is a comprehensive final examination lasting around three to four hours, administered at the conclusion of the semester.[11] The culminating examinations, which are of paramount importance, often comprise of essay prompts that necessitate students to employ their remembered legal ideas in order to analyse hypothetical scenarios.[12] Students are not

[9] Stucky, supra note 6, at 211.
[10] Id.
[11] Steve Sheppard, An Informal History of How Law Schools Evaluate Students, with a Predictable Emphasis on Law School Final Exams, 65 UMKC L. REV. 657 (1997)
[12] Stucky, supra note 6, at 236.

provided with any kind of assessment or evaluation about their comprehension and mastery of the course content prior to the final examination. It is typical practice in the field of law for students to receive only a numerical score or letter grade as the sole form of grading on final examinations. [13] It has also been noted that when students ask their legal professors to evaluate their test scores, they seldom receive helpful feedback.[14] Because of the hindsight nature of these final assessments, meaningful feedback on the student's progress in learning cannot be provided. [15]

The Shortcomings of Current Assessment Practices

Theoretically, assessments are employed to ascertain the extent to which pupils are acquiring the desired knowledge and skills.[16] Nevertheless, the present evaluation methods employed by American law schools serve more as a mechanism for categorizing and prioritizing students, as well as identifying and eliminating those who fail to acquire the necessary information, abilities, and values required to successfully pass a bar test.[17] While an end-of-semester summative evaluation may have the potential to benefit companies and contribute to public safety by assuring a minimum level of competence, its impact on enhancing the learning experience and improving student performance in law school is limited.[18]

The end-of-semester final exam warrants substantial scrutiny in terms of both its structure and substance.[19] One of the most significant drawbacks of the present assessment methodology is

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[13] Steven H. Nickles, Examining and Grading in American Law Schools, 30 ARK. L. REV. 411, 438 (1977).
[14] Munro, supra note 2 at 35.
[15] Munro, supra note 2 at 164.
[16] Stucky, supra note 6, at 236.
[17] JUDITH WEGNER, THINKING LIKE A LAWYER ABOUT LAW SCHOOL ASSESSMENT 19-22 and 34 (Draft 2003).
[18]Munro, supra note 2, at 33.

[19] Philip C. Kissam, Law School Examinations, 42 VAND. L. REV. 433,438-56 (1989).

the absence of opportunities for students to engage in practical exercises that align with the real content of the assessments. Furthermore, during the semester, students are deprived of valuable feedback that may assist them in evaluating their performance in anticipation of the final evaluation.[20] The present evaluation methodology including end-of-semester final examinations not only yields little educational benefits for students, but also serves as a superfluous cause of stress and dissatisfaction among them. According to the Carnegie Report:

"[Students] complained that the quality and quantity of their studying was unrelated to their performance on the final examination. They claim to have had little feedback during the semester and no basis on which to gauge whether they were mastering the material or making adequate progress toward the desired proficiencies".[21]

Over an extended period of time, my pupils have consistently conveyed comparable feelings of dissatisfaction. The individuals constantly express dissatisfaction over both the frequency and quality of assessments in law school, as well as the perceived lack of consistency in the grading process. The individuals express dissatisfaction with the tension induced by the lack of clarity surrounding the expectations for final examinations and the requirements for achieving success in various courses. According to Sandy D'Alemberte, a former president of the American Bar Association (ABA), it is worth questioning if any educational theory would support a curriculum that requires students to attend a class for a whole semester or year, only to be evaluated by a single examination at the conclusion of the course. Individuals that engage in the facilitation of such educational programs do not demonstrate a genuine commitment to the act of educating.[22]

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[20] Munro,supra note 2, at 166.
[21] Id. at 165.
[22] Talbot D'Alemberte, Talbot D 'Alemberteon Legal Education,76 ABA J. 52 (Sept. 1990).

The final examination, which is administered at the conclusion of the semester, is a deficient instrument for evaluating student accomplishment, and offers limited support in terms of facilitating student learning or enhancing their academic progress. One possible exception is to legal writing and research courses, whereby substantial feedback on students' progress is typically provided.

The current methods of evaluating students in the legal education system are neither legitimate, accurate, or fair.[23]

Effective Methods for Raising Grades via Testing

Legal educators globally must prioritize the clarification of grading systems' objectives, reassess practices that contribute to the perpetuation of advantages and disadvantages linked to high-stakes testing during students' early years in law school, explore methods to foster unbiased student learning, and optimize faculty time by reallocating it from end-of-semester grading to more productive endeavours.[24] An effective assessment system is designed to accomplish the following aims: (a) encourage students to engage in self-reflection regarding their strengths, weaknesses, and approaches to learning; (b) direct students towards appropriate learning opportunities; (c) offer incentives that motivate students to assume greater responsibility for their own learning as they tackle progressively advanced tasks during their legal education; and (d) compile data that showcases the professional competencies of our graduates and aids employers in making more informed hiring choices.[25]

Employing Valid, Reliable and Fair Assessments

Effective assessments are characterized by three key attributes: validity, reliability, and fairness. [26] The administration of final

[23] Id. at 238.
[24] Stucky, supra note 9 at 239.
[25] Id. at 239.
[26] MICHAEL JOSEPHSON, LEARNING AND EVALUATION IN LAW SCHOOL 7 (M. Josephson, 1984).

exams at the conclusion of each semester within a limited time period raises concerns regarding its validity, trustworthiness, and fairness. [27]

Validity refers to the extent to which an evaluation instrument effectively achieves its intended objective. Validity refers to the degree to which tests and their corresponding results accurately reflect the level of success of students in relation to the intended learning outcomes. [28] A valid assessment is characterized by its ability to accurately measure the intended construct or attribute. [29]

The validity of an assessment instrument is determined by its ability to enable the instructor to make conclusions regarding the specific areas that the test claims to evaluate.[30] Congruence, an essential component of validity, is the alignment between the objectives of the assessment and the objectives of the instructional process.[31] As an illustration, an educator aiming to assess a student's capacity to employ and differentiate instances may pose an essay prompt that challenges the boundaries of a collection of prior rulings. An examination can be considered genuine if it allows students to use reference materials and provides them with sufficient time to evaluate pertinent sources. In the event that the examination is conducted as a closed-book assessment or if pupils are not afforded sufficient time to consult pertinent sources during the examination, it is probable that individuals who possess slower reading capabilities or exhibit deficiencies in memorizing

[27] Gregory S.Munro, How Do We Know If We Are Achieving Our Goals?: Strategies for Assessing the Outcome of Curricular Innovation, in ERASING LINES: INTEGRATING THE LAW SCHOOL CURRICULUM 229, 237 (Pamela Lysaght et al. eds., 2002)
[28] ALISON BONE, ENSURING SUCCESSFUL ASSESSMENT 2 (Roger Burridge & Tracey Varnava eds., 1999).
[29] ARTHUR HUGHES, TESTING FOR LANGUAGE TEACHERS 33 (2d ed. 2003).
[30] GERALD F. HESS & STEVEN FRIEDLAND, TECHNIQUES FOR TEACHING LAW 289 (Carolina Academic Press 1999).
[31] PATRICIA L. SMITH & TILLMAN J. RAGAN, INSTRUCTIONAL DESIGN 118, 95 (Wiley, 2d ed. 1999)

aptitude would experience worse performance, notwithstanding their proficiency in case application and differentiation.[32] The validity of this examination is questionable since it fails to assess the extent to which pupils have acquired the ability to apply and differentiate various scenarios.

At the commencement of the academic term, I provide an evaluation to my students studying tort law, with the objective of gauging their proficiency in recognizing and distinguishing various intentional torts and corresponding defences. In preparation for the evaluation, the class engages in an examination of many cases with the objective of deriving fundamental legal principles pertaining to battery, assault, self-defence, and consent. Additionally, the class tries to discern factual circumstances that serve to establish the presence or absence of claims and defences associated with these legal concepts. The evaluation outlines a concise collection of information detailing a situation wherein an intoxicated young lady engages in an act of aggression against her male companion using a fractured wine glass, prompting the male buddy to respond by employing a firearm and killing the young woman. Students have the opportunity to refer to their outline and class notes, and are allotted a period of thirty minutes to enumerate the various claims and defences that may be raised by the young woman and her companion. The validity of this evaluation is supported by its focus on measuring students' acquired knowledge, its avoidance of rote memorization, and its provision of ample time for individuals with slower reading abilities.

Reliability refers to the extent to which an evaluation produces consistent outcomes when administered several times. The use of a dependable evaluation diminishes the potential influence of subjective factors from both the test administrator and grader, hence enhancing the integrity of the assessment procedure. [33] A

32Stuckey, supra note 6, at 241.
[33] Bone, supra note 28, at 6.

dependable evaluation instrument is one that effectively evaluates those who have acquired knowledge as having achieved learning, and those who have not acquired knowledge as having not achieved learning. In the context of assessment, the reliability of the evaluation is unaffected by the order in which students are tested or the specific instructor who administers the assessment. [34]

There exist two distinct categories of assessments, namely norm-referenced assessments and criterion-referenced assessments.[35] As opposed to focusing on whether or not an individual student meets the course's learning outcomes, a norm-referenced assessment (also called a normative assessment) looks at how students perform in comparison to one another.[36] A criterion-referenced assessment, on the other hand, evaluates students based on how they do in respect to a set of predetermined standards that specify the knowledge and abilities that every student should possess by the time the test is administered.

Using criterion-referenced exams, educators may ascertain if their pupils have attained a desired level of mastery in a subject.[37] Some students acquire the ability to learn more quickly or more easily than others, but if the instruction is good, most students will have acquired the necessary knowledge by the time the class has finished discussing and analysing a specific set of materials, or shortly thereafter.[38] With the use of criterion-referenced assessments, both students and teachers may gauge their progress toward learning goals, allowing for more targeted instruction that ultimately results in the vast majority of students mastering the material. The goal of criterion-referenced testing is to guarantee that all or nearly all

[34] Id.
[35] Id.
[36] Id.
[37] Stuckey, supra note 6, at 244.
[38] Id.

students acquire the knowledge and abilities necessary to practice law effectively.

"[T]he implicit pedagogical philosophy underlying criterion-referenced assessment is that the fundamental purpose of professional education is not sorting, but producing as many individuals proficient in legal reasoning and competent practice as possible."[39]

To reduce the potential for arbitrary grade assignment, law instructors should create and implement clear evaluation standards.[40] "[C]riteria-referenced assessments differ from norm-referenced assessments in that they rely on detailed, explicit criteria that identify the abilities students should be demonstrating (such as applying and distinguishing cases) and the bases on which the instructor will distinguish among excellent, good, competent, or incompetent performances."[41] More trustworthy assessments arise when teachers analyse student responses to hypotheticals, quizzes, and examinations using precise evaluation sheets outlining exactly what they are looking for and how points will be assigned.

Elucidating and Effectively Conveying the Underlying Objectives of Various Forms of Assessment

Teachers need to have a firm grasp on what is expected of their students and what should be prioritized when building assessment tools for those pupils.[42] Both teachers and students need clarity on what is being assessed and how it will be used. When there is clarity about what is expected of them, what the standards are, and how well they measure up, students are

[39] Id. at 245.
[40] N. R. Madhava Menon, Designing a Simulation-Based Clinical Course: Trial Advocacy, in A HANDBOOK ON CLINICAL LEGAL EDUCATION 177, 181 (Eastern Book Company, 2008).
[41] Stuckey, supra note 6, at 244.
[42] Id. at 243.

better able to learn.[43] Assessments can be designed to gauge a student's mastery of material, skill in completing a given activity, or both.

1. Cognitive Assessments

Cognitive assessments are employed to assess the advancement of students in comprehending the fundamental concepts of the law.[44] During the initial week of the torts course, I instruct students that by the conclusion of the fourth week, they should possess the ability to enumerate the common attributes exhibited by all intentional torts and defences, and effectively organize these materials into a structured outline framework. A range of cognitive assessments are employed, such as fill-in outlines, CALI exercises, hypothetical scenarios (accompanied by comprehensive sample answers), and multiple choice quizzes on the course website. These assessments serve the purpose of facilitating student comprehension of the intentional torts and defences, as well as evaluating their acquisition of knowledge in this area. Case synthesis tasks (along with extensive example solutions) and an introduction to the outline style are provided to help students learn how to effectively summarize the material we have covered in class.

2. Performance Assessments

Student proficiency is evaluated using performance-based tests.[45] They test students' ability to apply what they have learned to novel legal scenarios. In the first week of class, I give my torts students a list of objectives they should have accomplished by the end of the first semester.

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[43] Rogelio A. Lasso, Is Our Students Learning? Using Assessments to Measure and Improve Law School Learning and Performance, 15(1) BARRY LAW REVIEW 75, 106 (2010).
[44] Stuckey, supra note 6, at 240.
[45] Id.

(a) evaluate if a specific claim or defence may be made by identifying relevant facts;
(b) solve novel legal issues by using previously acquired legal knowledge; and
(c) explain the answers to those novel legal difficulties verbally and in writing.

My students can practice finding claims and defences in hypothetical scenarios that are incorporated into my performance assessments. To assist students hone their problem-solving abilities and strengthen their analysis about the presence of particular claims and defences, I also provide them increasingly complex hypothetical issues along with thorough sample replies. I provide a practice quiz, a practice midterm, a quiz that is graded, and a midterm that is graded during the first six weeks of class.

The Utilization of Formative Assessments as the Principal Mode of Assessment

In order to offer students and teachers continuous feedback on student progress, formative evaluations are administered at various points during the course.[46] Informal evaluations in the classroom, hypotheticals with sample responses, and self-scored online quizzes and practice tests are all examples of formative assessments. If you want your students to do better in class, on the bar test, and throughout their legal education, employ formative evaluations. Therefore, formative evaluations conducted on a regular basis should be the major method of evaluation in legal education.[47]

According to recent research in the field of education, using formative assessment can greatly improve the effectiveness of classroom efforts. Summative assessment tools serve an important function in education by ensuring a minimum level of knowledge and skill is present in the population. The majority

[46] Id. at 255
[47] Stuckey, supra note 6, at 255.

of assessments should take the shape of formative activities aimed at bettering student learning.[48]

The first year of law school is a crucial time for formative exams,[49] when pupils require time to adapt to a significantly more rigorous academic setting and a new method of instruction. While information acquisition is the primary factor in academic achievement in undergrad, knowledge application is as important in law school.[50] During the first year, students have a greater need for constructive criticism on their performance and suggestions on how to improve.[51] Teachers may learn a lot about how they are doing through formative evaluations as well.[52] Formative evaluations are used by educators to gauge student learning and inform lesson planning, according to experts.[53] Teachers can use formative evaluations to evaluate whether and how content should be delivered again.[54] Corrections can be done before the summative evaluation shows more serious flaws when a sizable percentage of pupils are unable to grasp a certain legal idea.[55]

Use Multiple Methods of Assessing Student Learning

Taking a single test at the end of the semester is not an effective way to see who has learned and who has not, as we have discussed. Due to the fact that students' results depend not only on their level of preparation for an exam but also on factors such as their mood on the day of the exam, there is a large margin for error in each one exam.[56] High amounts of stress connected with a pass-or-fail test can compromise its validity,

[48] Stuckey, supra note 6, at 255-56.
[49] Id. at 256.
[50] Munro, supra note 2, at 12.
[51] Stuckey, supra note 6, at 256.
[52] Lasso, supra note 43 at 77.
[53] Id.
[54] Id.
[55] Id.
[56] Stuckey, supra note 6, at 260

dependability, and fairness.[57] The last issue arises from the absence of validity, reliability, and fairness in the single test, which is further exacerbated by the subjective nature of grading in norm-referenced assessments, whereby exam results are compared. [58]

Formative, summative/formative, and summative evaluations should be administered many times during the semester to ensure validity, reliability, and fairness of results.[59] Students do better on summative assessments, and instructors can gauge a wider variety of abilities and knowledge when they are given more opportunities to demonstrate mastery of course material. In addition, before giving students their final grades, professors of the law should work to provide them constructive comments on their development. This necessitates a number of summative/formative assessments (quizzes, midterms, and finals) and formative assessments (hypotheticals with example answers and practice essay and multiple-choice tests) prior to the final exam at the conclusion of the term.

The options for formative evaluations offered to educators are many. Self-evaluation prompts, exercises, and practice tests are also available, in addition to traditional classroom evaluations and brief homework problems with sample answers.[60] Summative and formative assessments encompass several evaluation methods, such as graded issue-spotting and performance quizzes, multiple-choice quizzes conducted upon the conclusion of an instructional unit, and a combined essay and multiple-choice midterm exam that are assigned grades.[61]

[57] Id at 260.
[58] Id.
[59] Id at 253.
[60] Id. at 255-60.
[61] Id at 260-261.

Utilize Assessments as a Means to Facilitate the Development of Proficient Self-Directed Learners among Students

In order to optimize the educational efficacy of various assessment methods, it is imperative for educators to facilitate the development of enhanced self-directed learning skills among law students. This particular aptitude for acquiring knowledge independently is sometimes referred to as self-directed learning, self-regulated learning, autonomous learning, or expert learning.[62] Educational psychologists have observed that individuals who excel in self-directed learning possess distinct attributes. The individuals in question demonstrate active involvement with the educational resources they are exposed to, assume accountability for their own learning process, and employ discernible strategies for self-directed learning.[63] According to research findings, students who acquire advanced skills in self-directed learning have superior academic performance compared to their counterparts. These individuals exhibit a greater capacity to absorb knowledge, enhance their learning outcomes, and achieve higher levels of achievement. Research has indicated that the acquisition of self-learning skills may be effectively facilitated by the implementation of conventional doctrinal law school courses.

In order to enhance their self-learning abilities, students should actively participate in a cyclical process consisting of three distinct phases: (a) planning, (b) implementation and monitoring, and (c) assessment.[64] During the initial phase of the educational process, students engage in an analysis and categorization of the learning problem at hand. They proceed to establish specific learning objectives and devise strategic approaches to effectively tackle the learning job. The number

[62] MICHAEL HUNTER SCHWARTZ & PAULA MANNING , EXPERT LEARNING FOR LAW STUDENTS (Carolina Academic Press, 3rd edn. 2018).
[63] Barbara Hofer et al., Teaching College Students to Be Self-Regulated Learners, in SELF-REGULATED LEARNING: FROM TEACHING TO SELF-REFLECTIVE PRACTICE 57 (D. H. Schunk, B. Zimmerman, eds. 1998).
[64] Id. at 3.

provided is. In essence, individuals exercise agency in determining both their desired areas of knowledge acquisition and the methods by which they engage in the learning process. During the phase of implementation and monitoring, students engage in the execution of the selected tactics while simultaneously assessing the efficacy and efficiency of the adopted plan.[65] During the assessment phase, students assess the effectiveness of their tactics in achieving optimal outcomes. Consequently, this facilitates their ability to adapt their techniques in anticipation of future learning tasks.[66]

Informal Classroom Assessments

The topic matter is comprehensively addressed by Angelo and Cross in their seminal publication, wherein they outline several classroom strategies that educators can employ to evaluate both student learning and staff instruction.[67] These encompass methodologies for evaluating knowledge acquisition as well as proficiency in various abilities. The subsequent strategies outlined below pertain to formative assessments in the classroom, which can be employed by law educators:

1. Assessments of Prior Knowledge, Recall and Understanding

The primary impediment to the acquisition of information frequently lies not in the deficiency of pupils' preexisting knowledge, but rather in the presence of preconceived notions and beliefs.[68] The approach known as the misconception/preconception check is a rapid method for identifying the information or ideas that might potentially hinder students' learning.[69] In the context of my initial semester torts

[65] Id.
[66] Id.
[67] THOMAS A. ANGELO & K. PATRICIA CROSS, CLASSROOM ASSESSMENT TECHNIQUES: A HANDBOOK FOR COLLEGE TEACHERS 3, 103-361 (Board of Regents of the University of Michigan for the National Center for Research to Improve Postsecondary Teaching and Learning, 1993).
[68] Id at 132.
[69] Id.

course, it is frequently seen that students hold the misconception that the intent component in intentional torts can be satisfied just by demonstrating the actor's subjective inclination towards achieving a certain result. Many students enter law school with a lack of awareness that, within the realm of tort law, the demonstration of purpose is not contingent upon subjective intent.

2. Evaluation of Analytical and Critical Thinking Abilities

This evaluation necessitates students to classify ideas based on the inclusion or exclusion of specific important distinguishing characteristics.[70] Each student is given a grid with two or three broad categories of legal principles and a jumbled list of phrases that can be placed in those broad categories.[71] Then they have a short amount of time to arrange the secondary objects as instructed.[72] To illustrate, shortly after introducing the concept of proximate cause, I distribute a document to students that includes a narrative outlining the negligent behaviour of an individual, a table featuring the classifications of "foreseeable consequences" and "unforeseeable consequences," and a compilation of various potential outcomes resulting from the individual's negligence. I instruct pupils to classify the many outcomes as either predictable or unpredictable effects of the actor's behaviour. The replies are examined by the teaching assistants and an assessment is made about the students' comprehension of the concept of foreseeability in relation to proximate cause.

Conclusion

The significance of proper evaluation in student learning is of utmost importance and should not be underestimated. A meticulously designed evaluation framework functions as a navigational tool, allowing educators to customize their pedagogy in order to cater to unique requirements and enhance the

[70] Id at 164.
[71] Id at 160.
[72] Id.

educational experience. The provision of constructive feedback, which is obtained through assessments, plays a crucial role in empowering students to actively participate in their educational journey. This process not only fosters a feeling of ownership but also enhances motivation among students. Furthermore, evaluations play a crucial role in fostering responsibility by promoting a continuous commitment to improvement and development. Through the utilization of effective assessment strategies, educators create an educational setting that is characterized by adaptability, individualization, and enhanced intellectual growth. This environment not only fosters scholastic achievement but also nurtures the development of lifetime learning competencies. The impact of assessment procedures on students' learning outcomes in law school is substantial. Formative assessments have been identified as very efficacious instruments for enhancing student learning and performance within the context of a course, particularly in the domain of law school education and the subsequent bar examination. The existing evaluation methodology, which relies solely on a solitary final examination at the conclusion of the semester, fails to offer students the necessary feedback required for the cultivation of self-directed learning abilities and the enhancement of academic performance within the realm of law school and beyond. In order to fulfil their commitment to effectively train aspiring legal professionals, it is imperative for law schools and law educators to establish thorough evaluation initiatives. This article aims to outline the optimal approaches for evaluating student learning, specifically tailored for law schools and law educators. The intention is to provide them with the necessary elements to establish an effective assessment program.

FUNDAMENTALS OF RESEARCH

Prof. (Dr.) M.S. Sisodia*

Plate 1. Butterflies

Plate 1 denotes a number of flamboyant and colourful butterflies. As children, many get fascinated by multi-coloured, attractive butterflies and start collecting them.

* Department of Geology, Jai Narain Vyas University, Jodhpur

I gratefully acknowledge the sources of all pictures/photos which I have taken from various websites. The pictures/photos/data are in public domain

Plate 2. Birds with attractive colours

Plate 3. Multicoloured stones

The birds in Plate 2 are lovely and colourful. Even the stones in Plate 3 are not dirty or monotonous in looks; they have many colours. They are pretty and that's why people wear them on their fingers.

First, the researcher starts collecting the butterflies, stones or birds. The collection would contribute as data. Second, the variation in colours could make them curious. They start questioning why some of them are red, some green, some yellow, and some multicoloured. They start investigating the reason for the variation and deviation in colours.

Kinds of Research

Broadly speaking, research can be classified into two classes: Descriptive (what) and Explanatory (why). Scientifically, they are classified as Quantitative research and Qualitative research.

Quantitative research generates numerical data. Quantitative research is information that can be converted into numbers; only measurable data is gathered and analysed in this type of research. Qualitative research on the other hand generates non-numerical data. It focuses on the collection of discussion, debates and argumentative data rather than measurements. The gathered information is then analysed in an interpretative manner, subjective or impressionistic, or even diagnostic.

Research can also be classified into two distinct types: primary research which includes a collection of data that is new and does not exist and secondary research which includes summary, collation and or synthesis of existing findings.

The following illustrations are of India before 1835.

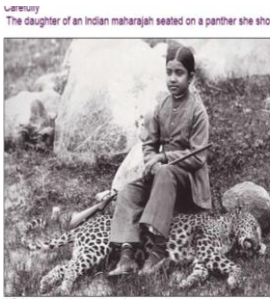

Plate 4. Rajkumari, sitting on a panther she shot

Plate 5

Plate 6

Plate 7. before British rule

Plate 8. Imambara, Lucknow

Plate 9. Tatya Tope with his troops

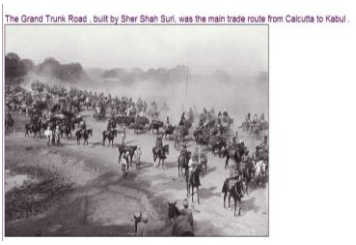

Plate 10. Grand Trunk Road

Plate 11. Jama Masjid, Delhi

Plate 12. Jhansi Fort

Plate 13. Women in a party, Bombay Plate

Plate14. Palace Thanjavur

Plate 15. Delhi Gate

Plate 16. Akbar's tomb

Plate 17. Meenakshi Temple

Plate 18. Funeral procession

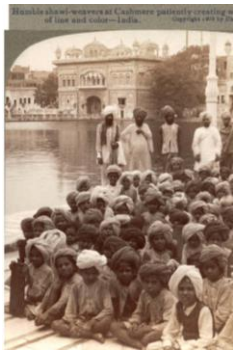

Plate 19. Pathshala

Plate 20

Plate 4 is of a small girl who was an ace shooter and a panther she shot herself. There was no gender discrimination. Plate 5 is of Maharashtrian women. Plate 6 is of a girl in a silk Gujarati saree. There is a saying that a silk saree can be packed in a matchbox. Plate 7 shows Rajasthani women. Plate 8 is of Imambara, Lucknow. Plate 9 is of Tatya Tope with his troops; note the decorations, the richness of the troops. Plate 10 shows G T Road. Plate 11 is of Jama Masjid, Delhi. Plate 12 is of Jhansi Fort. Plate 13 is of a party in Bombay; note the richness and gorgeousness of Indian women. Plate 14 is of a Palace in Thanjavur. See the decoration and floral work. Plate 15 is of Delhi Gate. Plate 16 is of Akbar's tomb. Plate 17 is of Meenakshi Temple. Observe its elegance. Plate 18 is of a funeral procession. Plate 19 shows a Gurukul and its serene environment in which the children used to study. Plate 20 shows Goswami-Maharajahs.

All these pictures are part of the data that was collected by Lord Macaulay. His address to the British Parliament in 1835 is as follows:

இத்தருணத்தில், சுமார் 170 ஆண்டுகளுக்கு முன்பு பிரிட்டிஷ் நாடாளுமன்றத்தின், பிரபல உறுப்பினரும், பிரிட்டிஷ் அரசாங்கத்தில் பல முக்கியப் பதவிகளை வகித்தவரும், 1834-ம் ஆண்டு பிரிட்டிஷ் அரச அமைத்த சபரீம் சுவளரில ஆஃப் இந்தியா' என்ற அமைப்பின முக்கிய உறுப்பினருமான மெக்காலே பிரபு நான்னாடுகள் நமது நாட்டைச் சுற்றிப்பார்த்துவிட்டு ஆங்கிலேய அரசுக்கு எழுதியதைக் கீழே தந்துள்ளோம்.

LORD MACAULAY'S ADDRESS TO THE BRITISH PARLIAMENT 2 FEBRUARY, 1835

"I have travelled across the length and breadth of India and I have not seen one person who is a beggar, who is a thief. such wealth I have seen in this country, such high moral values, people of such caliber, that I do not think we would ever conquer this country, unless we break the very backbone of this nation, which is her spiritual and cultural heritage, and, therefore, I propose that we replace her old and ancient education system, her culture, for if the Indians think that all that is foreign and English is good and greater than their own, they will lose their selfesteem, their native culture and they will become what we want them, a truly dominated nation."

Plate 21.

"I have travelled across the length and breadth of India, and I have not seen one person who is a beggar, who is a thief. Such wealth I have seen in this country, such high moral values, people of such calibre, that I do not think we would ever conquer this country, unless we break the very backbone of this nation, which is her spiritual and cultural heritage, and therefore, I propose that we replace her old and ancient education system, her culture, for if the Indians think all that is foreign and English is good and greater than their own, then they will lose their self-esteem, their native self-culture, and they will become what we want them, a truly dominated nation."

Gist of Thesis

This is the gist of his thesis. In each thesis, there are four major points. Twenty-five points out of a hundred can be allotted to each point. If one intends to do research, they must insist on these four points.

The first point is the problem. The researcher must decide the problem of the research according to their interest and knowledge. The researcher may take one to two years to decide the problem, but the problem should be feasible. In the case of Macaulay, the problem was to overtake India.

The second point is collection of data. Macaulay spent three years collecting data while travelling all over India, part of which is demonstrated in the figures above.

The third point is the result that can be derived on the basis of data collected. The derived result by Macaulay was that India has a rich culture and dedicated education system. Hence, it could not be conquered in that setup. Most of the theses are completed as soon as the result is derived on the basis of data collected.

All great research includes a fourth point which is the most important and that is the philosophy. The philosophy in the case of Macaulay's study was that India could be overtaken if her education system is ruined, her culture can be tainted, her

heritage can be destroyed. The fourth point is the most important because it gives direction and vision for further research.

Legal Research: Meaning

The next topic for discussion is legal research. Legal research is defined as the process of identifying and retrieving information necessary to support legal decision-making. While answering legal questions, lawyers must understand the intricacies of law and legal precedent. That is, one should find out whether these things have been discussed or interpreted earlier. Legal research includes the method to collect relevant data to answer the pertinent questions.

Legal research methodology is a simple way of addressing and exploring unsettled legal questions or issues. They are techniques by which one acquires legally relevant information, and analyses, interprets, and applies them to resolve issues and findings. Legal research is important because it helps the researcher focus on the facts of the case and identify the point of law in the disputed issue. Research also helps prepare arguments and evidence that one can use in court.

For science students, childhood observations can play a crucial role. The following are some of the problems that school students asked senior scientists for solutions:

During a flood, ants huddle together and that makes them float, and therefore reach to safety. Can such things be applied for humans in case of floods?

Why can't you solve the problem of water management if there are no floods in dense jungles?

Plate 22. How to float to safety during floods (surviving skills in a colony)

Plate 23. Water management. No floods in dense jungles

Plate 24. Kangaroo rats have a tremendous ability to salvage the water from their urine before they pass it. They have evolved specialized kidneys with extra microscopic tubules for extracting water from urine.

Plate 25. Leakage problems, Fuel leaking from rectangular drums during transportation. Honey never leaks from a beehive, is it because it has hexagonal cells?

Plate 26. Breakage of bones, cats have been known to fall off 32 story buildings (over 320 meters) on to concrete and survive

Scientists found that kangaroo rats have a tremendous ability to salvage water from urine before they pass it. We require pure water to drink even though plenty of water is there in all the food we consume. Can humans survive if there is no fresh water? This can be learnt from kangaroo rats because they have evolved specialised kidneys with extra microscopic tubules for extracting water from urine.

There is never a leakage of honey from beehives. Is it because honeycombs have hexagonal cells? Fuel is transported to different countries in rectangular tanks but there is always a

danger of leakage from these tanks. Can this leakage be permanently contained?

Cats have been seen falling off 32-story buildings onto concrete, but they still survive without a scratch on their bones. How do cats manage it? Can this be applied in case of commando training if learnt?

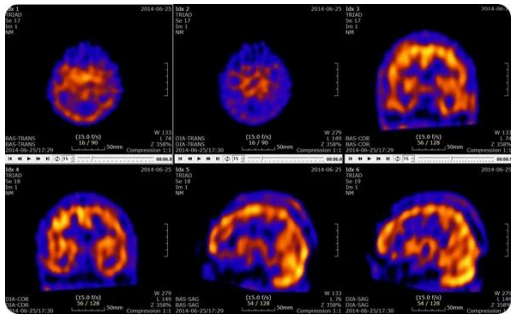

Plate 27. Single Photon Emission Computed Tomography

Plate 28. A thinks It is beautiful B wants one, C plans to steal it while D plans to earn it.

Modern technology has proved to be of great advantage in legal research. For instance, consider a scenario where a gold coin is lying on a table and four people are sitting surrounding the table. A modern technique called SPET (Single Photon Emission Computed Tomography) finds that all four people named A, B, C and D have different thought processes after looking at the gold coin. A thinks it is beautiful and just appreciates it. B intends to acquire it while C wants to steal it. D being more confident in himself starts planning to earn a coin. SPET can be

of great help in reading the psychology of different persons and therefore can be a boon in solving many crimes.

There are certain social enigmas that can damage the psychology of people leading them towards committing crimes. For instance, bullying a child in school.

Plate 29. Bullying the children, mentally weak children and transgenders

Scanning the ancient literature of India proves there is no such incongruity in gurukuls and ancient Vidyalayas. It is a matter of legal research as to how, when and why such malpractices crept in our society and at the same time what remedies were adopted by the ancient people to curtail such misconducts.

In Jain philosophy, the Jains go to the root causes of crimes in the society. Jain philosophy is of the view that aversion leads to hatred and anger while attachment leads to selfishness and greed and these emotions then lead a person to commit a crime. Since Jain philosophy knows the root cause of these emotions it describes ways and means to alleviate bad emotions.

Plate 30. Jain philosophy: aversion leads to hatred and anger while attachment leads to selfishness and greed

Jain philosophy believes in right conduct called Samyak Charitra which states that if conduct is good, then most crimes can be removed from the world. The right conduct is possible if one possesses the right knowledge, Samyak Gyan. For the right knowledge, one has to have the right faith, Samyak Vishwas.

It is no surprise that advanced countries like the USA are adding Jain philosophy to their curriculum. In as many as 40 universities in the USA, Jain philosophy is being taught.

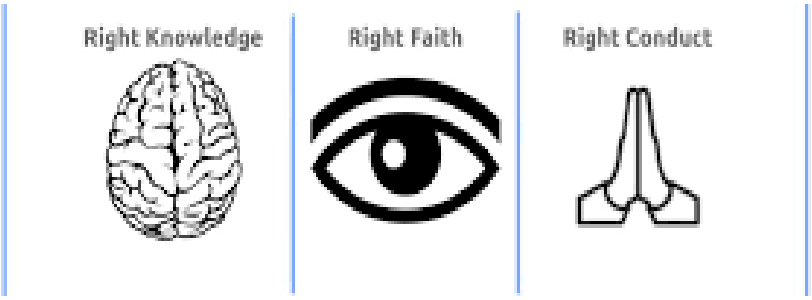

Plate 31. Jain philosophy: control of emotions like anger, ego, deceit and greed by following Ahinsa, Satya (truth), asteya (not stealing), Brahmacharya (chastity) and Aparigraha (non possesiveness) and believing in a doctrine called Anekantvaad (many sidedness)

Collection of Data

Collection of relevant and important data is very important in case of legal research. In 2008, Jaipur was rocked by a series of blasts. Many people were killed in this sad incident. About 8-9 people were accused and arrested. All these accused have now been acquitted. The accused were defended by young students. These students while collecting data observed that the prosecution was weak in framing charges and justifying the criminal conspiracy, and that the prosecutors could not prove any motive behind the crime.

There is a question which is often asked by students and that question is why they should do research. The answer to that should be because they enjoy it. If one really plans on going into research, then enjoyment is the foremost thing. If they do not enjoy research, then it will be just a monotonous way of earning money or a wastage of precious time.

Research can be defined as a search for knowledge or any systematic investigation to establish facts. The primary purpose of applied research, as opposed to basic research, is discovering, interpreting and developing methods and systems for the advancement of human knowledge on a wide variety of matters of our world and universe. The word 'Research' has been derived from the French word, 'rechercher.' 'Chercher' means 'to search'. The human being is insatiably curious and many of the earliest discoveries were a result of the urge to investigate the unknown. The universal truth that the possession of knowledge confers power and true knowledge confers humility should always be kept in mind.

Plate 32

Plate 32 states that one cannot advance without innovation. Innovation is the process of realizing new propositions, processes, products or business models. Any new idea or new law other than already existing legal beliefs can be a topic for research. It is called innovative research. It is said that there is nothing stupid in science. Orville and Wilber Wright who invented the aeroplane, when trying to give shape to their idea of a flying machine, were dubbed stupid by society. James Watt was called crazy by his own kith and kin. Archimedes was considered a madman. Society often fails to appreciate the visionary ideas of innovators.

One should be brave, gather courage and start working on their idea if they have a new idea and not be worried that people may not accept it or laugh at it. One should be prepared for failures too. When Edison was not successful in making a bulb after more than a hundred attempts, his assistant told him his trials to make a bulb had failed a hundred times. Edison replied saying that he had not failed. He now knew a hundred ways by which he could not make a bulb.

Innovation

Innovation is not necessarily applicable only to technology. Innovation can be applied in all fields and organisations. For instance, there can be creation of a new financial model or a new legal model. The new idea should add value for the legal fraternity. It will end up just as an idea if it does not add value to the field the researcher is working in. When it adds value, it transforms into an innovation. It is important to include the purpose or the goal called Teleology as well as the duty or obligation applicable in particular situations called Deontology during the innovation process.

It is a general perception that law is absolute and not connected with daily life and is slow-moving. Lawyers are resistant to change and have a reputation for being highly cautious. One can change these concepts. When technology is advancing at the speed of light it has become obligatory to improve access to justice to better serve clients. Budding law students should opt

to seek support from artificial intelligence like ChatGPT etc. To begin with, one should read "100 Innovations in Law" by Jason Krauss.

Research Methods

There are different research methods by which one can collect data. Once a researcher has decided on a problem, they must look for suitable research designs such as:

1. True Experiment design
2. Quasi-Experiment Design
3. Double-Blind Experiment (for preventing bias and Placebo effect)
4. Descriptive Research
5. Literature Review
6. Case Study
7. Survey
8. Twin studies (for behavioural study)
9. Meta-analysis (to resolve uncertainty)
10. Systematic Reviews
11. Observational Study
12. Naturalistic Observation
13. Field Experiment
14. Cohort Study (group of people)
15. Longitudinal Study (data on the same people for a longer duration)
16. Cross-Sectional Study
17. Factorial Design
18. Case-Control Study
19. Pilot Study.

What design is chosen depends on different factors, namely the information wanted, feasibility, how reliable the information needs to be, if it is ethical to conduct the study and the cost of the design.

In short, the fundamentals of research include the question of what the problem is. Once the problem is clear, the decision as to how to solve it must be made.

For the solution, one must know:

1. If anybody has attempted such a study.
2. The types of data required.
3. How the data can be collected
   (i) theoretical
   (ii) experimental
4. What the expected results are.

There are some more legal issues worth contemplation for research.

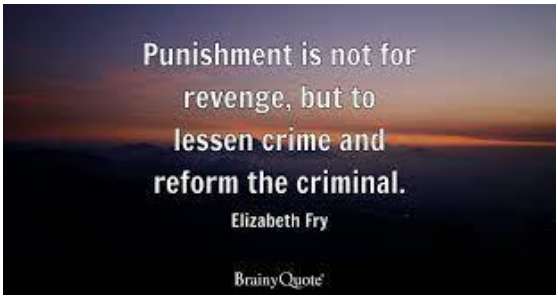

Plate 33. Forgive or not?

Plate 34. Rehabilitation

What the limit for forgiveness should be and how hard the punishment should be for different crimes are still big issues. One may find different arguments though defined punishments

are specified for certain crimes. Inspiration can be sought from ancient scriptures, namely the Geeta and Ramayan. The accused should be given a chance to be heard before announcing the punishment. There is a story in the Ramayan wherein Lakshman gets alarmed when he sees Bharat marching towards them with his army behind him. Lakshman wants to attack Bharat but Lord Rama stops him by insisting that Bharat be allowed to explain first as to why he is coming with all his army. Lakshman feels embarrassed when it is realised that Bharat actually came to surrender himself before Lord Rama and that he never wanted to be King. Another similar story is of Vibhishan, who came to Lord Rama to apologize for his brother Ravan's crime. Geeta, the holy scripture, is very inspirational in this regard. Lord Krishna gave all sorts of chances to Duryodhan before punishment. He even bargained for a meagre five villages instead of the whole kingdom to the Pandavas.

Plate 35. Capital Punishment

Another burning topic for research is whether there should be capital punishment. There are multiple answers and arguments in favour of or against capital punishment. Can we really reform and rehabilitate the heinous criminals? It is a big issue all over the world. One may seek the help of modern technologies in support of your answer.

A very important topic for research is euthanasia. Everybody should have a right to die with dignity. Would permission for euthanasia in India be realistically practical or not? The discussion attracts more negative arguments than positive

justifications. There is a scare that as soon as euthanasia is accepted, it will result in the mushrooming of organ sale shops. At the same time, there may be too many murders in the garb of unhappy families.

Plate 36. Euthanasia

Alternate Dispute Resolutions have proved very beneficial in legal issues. About five or six years ago, when I used to teach Geology at a university, some mining incidents happened near Chittorgarh. There are limestone mines near Chittor fort.

Someone filed a case claiming that the blasting material used by the leaseholder to mine lime stones was causing too much vibration. These vibrations on the Richter scale were of 6-6.5 magnitude. Vibrations of such high magnitude would soon cause the dismantling of the Chittor Fort. The Honourable Court

ordered that mining near the Fort should be stopped immediately so that no damage was caused to the fort and the environment was preserved.

One day I received a call from my colleague who is a Professor of Mining. He asked if I could read seismograms. I said I could try. The next day, two people showed me a crumpled paper that had some lines rising and falling like that on a cardiogram. There was no specification of magnitude or intensity on the readings. It was an original copy of the seismogram that had been submitted in court with a claim that the seismogram was taken at the mines during blasting and it showed a magnitude of more than six.

I questioned why the fort had not been devastated if the blasting material produced vibrations of more than six on the Richter Scale. An earthquake of magnitude six can destroy hundreds of buildings in a jiffy. They replied that as legal advisors of the company, they had already given many such justifications but the court was still not satisfied. Seven months had already passed since the ban for mining was executed. The company was at a huge loss and payment to the labourers without any production had become difficult.

I then enquired with my colleague, a recognised blasting expert, about the blasting material they use for mining. He replied that the material they use is very mild and that the vibrations produced by such material do not exceed magnitude 1.5 on the Richter Scale. I further asked him if a certificate regarding how much vibration a particular blasting material produces is recognised by the court. To this, my colleague replied in the affirmative.

I then suggested the legal experts to change the line of their arguments and adopt an alternative dispute resolution. I suggested that instead of defending the seismogram, they should request the court to let them use the blasting material that does not produce damaging vibrations certified by the blasting expert. They happily agreed to this suggestion and the

disputed case was soon resolved after following the proposed alternative.

Conclusion

So, when one does research, it should be done on the following lines:

1. Develop and evaluate causal theories.
2. Appraise probabilistic cause v/s deterministic cause.
3. Minimise the chance of drawing incorrect causal inferences from data.
4. Frame a convincing research answer.
5. Look for explanations that can disprove the preferred explanation.

IDENTIFICATION AND FORMULATION OF RESEARCH PROBLEM

Prof. (Dr.) Yogesh Pratap Singh*

Introduction

The realization, identification, and formulation of a research problem is a crucial and essential aspect of any research. Identifying and formulating the research problem constitute any research enterprise's starting phase. Its importance cannot be emphasized enough because the success of any research depends on the selection of an appropriate and suitable research problem. While a good selection may lead to sustaining one's interest in the research, a deficient formulation may lead the researcher into unexpected difficulties at a later stage. That is why researchers say that it is often more difficult to find and formulate a problem than to solve it. Therefore, identifying and formulating the research problem is the beginning of one's research and the most significant stage of the research. Hence, it requires serious attention and a tremendous amount of patience.

One cannot select or identify a problem in one day or in one week. Great scientists like Darwin took years to find and formulate their research problem. So, impatience at this stage will give a good dividend. However, one should not mistake this patience for complacency, which sometimes may happen. So, when one says patience, it simply means that one is continuously thinking, deliberating, and refining their thought process. During this process, one must discuss their problem with your supervisor, your friends, or maybe some other person who is an expert in that area.

* Vice-Chancellor, National Law University, Tripura

Considering the importance of this process, universities in India and abroad have formalized this as one of the essential requirements for getting registered in any research programme. A researcher has to submit a synopsis consisting of the statement of the problem that she or he intends to solve, along with methodological details. If one problem is not suitable, proper, or researchable then the university should not consider it. Sometimes, suppose it appears to the board that there is a potential in the problem, but it is not properly formulated. In that case the university may give an opportunity to rework and reformulate their problem.

Definition and Sources of Research Problem

A research problem is a statement about the area of concern, a condition to be improved, a difficulty, a problem that one wants to eliminate, or which one thinks should be eliminated, or a troubling question that exists in scholarly literature. One goes through various scholarly literature and finds that some arguments which the scholar or author gives are difficult to comprehend or do not seem realistic. Therefore, it requires meaningful understanding and deliberate investigation. It is identified by intellectual curiosity. It is a cognitive phenomenon.

Now the question arises, how to get this research problem? What are the sources of the research problem? We have multiple sources, which are normally divided into static sources and dynamic sources.

Static
• Books, Journals & Other Scholarly Literature
• Reseasrch, Technical & Seminar Reports
• Census and Other Government Data
• Encyclopedia
• Newspapers
• Sources of Criticism
• Minority Opinions
• PHD Thesis
Dynamic
• Self (Observance, Experience, Techonology)
• Other Persons (Discussion, Interaction, Social Media, Discussion Forums, Experts, Colleagues, Supervisor etc.)

Static Sources

Static sources are the literature that already exists and are not going to change. This is the precise reason why a researcher is asked to do a survey of existing literature before the identification and formulation of the problem. A literature review is often done at the beginning of research work, which shows the researcher what the research community is up to in researching that topic and highlights gaps in the existing research. So, information is not going to change, but it gives you a theoretical foundation to do further research. Books, journals, reports, technical reports, seminar reports, census data, sources of criticism, minority judgments of courts, Ph.D. thesis, Encyclopaedia, newspapers, etc., are the static sources of numerous research problems.

In majority of the cases, Ph.D. is done only on the basis of newspaper clippings.[1] Census data leads to so many authentic research and Ph.Ds. It is so relevant that many books are authored on the analysis of these census data and to find out different kinds of trends in various sectors of life. Let us take a recent example. Constitutionally, the purpose of the decennial census is to ensure an accurate apportionment of seats in the House of People based on state populations. However, policymakers have recognized that an accurate census can provide other valuable information to improve the policy process. Today, policymakers at all levels of government, as well as private businesses, households, researchers, and nonprofit organizations, rely on an accurate census in myriad ways that range far beyond the single fact of how many people live in each state. The social sciences make heavy use of census data across

[1] One of my professors in law school, Bangalore, he was probably one of the first persons who worked on Refugee Law in India, protection of refugees, and this, I am talking about 1975 or 76. There was a convention on the status of refugees which India had not signed, but there are so many refugees taking shelter in India. India has still not signed that convention, for that matter, and there was no literature available on refugees in India except the newspaper reporting share and there. So, he collected newspaper reporting for eight to ten years and based on that, he prepared his dissertation, he made the analysis.

a wide variety of topics. The lack of census information severely hogs the quantitative study of society. In fact, it is surprising to see very few numbers of studies on the census in India.

Let us take an example of recent research by the former Chief Election Commissioner of India, Mr. S. Y. Quraishi. The research published as a book entitled "The Population Myth: Islam, Family Planning and Politics in India" uses census and National Family Health Survey (NFHS) data to debunk some widely held misconceptions. Some right-wing organizations and their support group highlight several data points about the growth in the number of Muslims in India since partition and portended how it could be dangerous for "Bharat."[2] One such fact is that the decadal growth rate of the number of Muslims in India exceeds that of Hindus, and, as a result, the share of Muslims in India's population is rising. This piece of information is used with abandon as a convenient tool to argue that the numerical strength of Muslims is growing fast enough to push Hindus to minority status in the not-so-distant future. However, the analysis of census and NFHS data gives a different result, viz., the growth rate of Muslims has been falling faster than that of Hindus over the past three decades. Besides, the relative growth rates of groups of people can be and have repeatedly been shown to be associated with socio-economic factors rather than religious identities.[3] The data also shows that the total fertility rate for Muslim women has been falling steadily since 1992-93 (NFHS-1), and the gap between Muslim TFR[4] and Hindu TFR has narrowed down significantly.[5] While TFR for Hindus declined from 3.3 to 2.1 between 1992-93 and 2015-16, TFR for Muslims declined from 4.4 to 2.6. Interestingly, TFRs

[2] Rakhi Bose, Why The Myth of Muslim Population Overtaking Hindus is Unfounded, The Outlook India, 12 May 2023.
[3] Achin Chakraborty, Debunking The Population Myth, 16 April 2021, The Telegraph.
[4] TFR is the number of children that a woman on an average gives birth to during her reproductive years.
[5] Sunetra Choudhury, Interview: SY Quraishi, author, The Population Myth: Islam, Family Planning and Politics in India, The Hindustan Times, Feb 19, 2021.

for the two communities vary widely across Indian states. The TFRs of Hindus in Bihar and Rajasthan far exceed that of Muslims in Kerala or Tamil Nadu.[6]

The importance of census data is also reflected in the current ongoing demand for caste census, which goes beyond politics. India runs the world's most extensive affirmative action programme based on caste identity. Reservation in educational institutions and government jobs are provided on the basis of caste identities. While the quotas for SCs and STs are proportionate to their population as gathered in census exercises conducted every ten years, the reservation for OBCs is not based on their share in the population of India. Affirmative action policies for OBCs, therefore, have been a matter of serious concern and have been questioned in the apex court on multiple occasions. With a lot of difficulties, deliberation, discourse, and criticism, the Supreme Court was able to fix a kind of ceiling of 50% reservation (27% for OBCs, 15% for SCs, and 7.5% for STs) and left 50% for the merit pool. However, The Supreme Court has incessantly asked that the government must provide authentic data before implementing any affirmative action policy. The government must produce solid evidence-based data before claiming that this community needs more representation, which is missing so far at this juncture. Many political parties and scholars are demanding that social justice requires that there should be a caste census. The last caste census was done in 1931.

There are reports which claim that the top 10% of the Indian population owns 74.3 % of the total wealth, while the middle 40% and the bottom 50% own 22.9% and a mere 2.8%, respectively.[7] This data clearly indicates the increasing class-based inequality in India. So, which caste groups have actually benefited from the affirmative action policies in India, and which are left out can be

[6] Achin Chakraborty, Debunking The Population Myth, 16 April 2021, The Telegraph.
[7] Sandeep Saurav, Why A Caste Census Is The Need Of The Hour, The Wire, 05 September 2021.

answered only when we have accurate data. If these increasing inequalities have to be bridged, caste-based data is necessary. Concrete policies cannot be formulated in the absence of concrete data. If the wealth of the nation is divided across caste lines, we need to have accurate data about the population of various caste groups and their socio-economic status. Only then can we move towards addressing these issues, which are necessary for the overall and holistic growth of our nation.

This data should also clear so many apprehensions about the inclusion of OBCs and increasing the list of OBCs. This is one of the biggest apprehensions that if we publish this caste census, they will claim more reservation, but it will not be true. If, for example, Jats or Marathas want to be included in the OBC list, they would just dip into the census data and prove their backwardness, or if the data shows otherwise, their claim may not be entertained. If the government has the data, it can simply justify that there is no need for reservations for these two communities. Thus, any reservation must be based on verifiable, empirical evidence, and census data is the best empirical evidence.

The census is not merely an accounting exercise. It generates data on various other aspects: educational level, occupation, household assets, and life expectancy for each group and at each level that it recognizes. Moreover, based on this data, the government formulates various programs which aim to identify areas eligible for housing assistance, people, who are eligible for rehabilitation loans, housing subsidies, job training, employment, and so on.

Sources of Criticism: Frequently, one finds literature that is relevant to one's chosen topic but disagrees with the author's position. Therefore, one way that the source can be used is to describe the counterargument, provide evidence from own review of literature as to why the prevailing argument is unsatisfactory, and discuss how the approach is more appropriate based on the interpretation of the evidence. Critical

thinking, which is critically lacking in academia, must be encouraged to produce good-quality research.

Minority Opinion: Dissenting opinions of the Supreme Court judges may be a good source of problems. The majority, which becomes the law of the land, gives one interpretation, which minority judges do not accept as the correct interpretation of the law. In the recent and famous *Sabarimala Temple case*, Justice Indu Malhotra gave a strong dissenting opinion and specifically highlighted two factors that may be considered for future research. The first included the questions of legality and the 'wrong' precedent the court may set by divulging in this case. The second one was rather convoluted, dealing with the concept of Essential Religious Practices, and the scope of judicial intervention in such cases.[8]

Ph.D. Thesis: A good Ph.D. thesis is not only to provide a solution to the problem that has been selected but must also indicate the area for future research analysis based on the conclusion findings of the research. Researchers must also strive to highlight ways other researchers can reproduce or replicate the results to draw further conclusions and suggest different directions that future research can take, if applicable. Therefore, while finishing one's Ph.D. thesis, one indicates the further areas emanating from the research which future researchers can explore further.

Dynamic Sources

The dynamic source is something that is constantly in flux, often due to external factors. Two types of dynamic sources might be the researcher himself/herself and Others.

(i) Self: The researcher herself or himself may be a source of the research problem. It may include observance, experiences, technological changes, reflections, etc.

[8] Indian Young Lawyers Association v. The State of Kerala (2019) 11 SCC 1.

(a) Observance: The researcher, as a human being, observes various things, the state of things and objects. The identification of the research problem depends on the observance power of the researcher. We live in a society, and on a daily basis, we observe a variety of things, such as poverty, hunger, unemployment, crime, law and order. Identification of the problem will depend on the factor of how keen an observer one is.

Let us take a recent example where UP Gangster-turned politician Atiq Ahmad and his brother Ashraf Ahmad were shot dead by three assailants posing as journalists when the two brothers were interacting with the media while being escorted by police personnel to a medical college in Prayagraj for a check-up. In contrast one group of people disapproved of it on the ground that it is a mockery of law and order and the failure of the police system in the State. The other group is gratified on the ground that two criminals were finally finished, which would not have been possible following the ordinary course of the justice delivery system. For them, the constitution, constitutionalism, and the rule of law are meant for the ordinary people, for the layman, for law-abiding citizens, not for the criminals. So, if criminals are shot down by some goons or other criminals, we should not worry. But this incident definitely raised a very serious question mark on our police system, court system, political system, and the media. This needs to be improved and for which serious and authentic research is required. Researchers, therefore, may select problems from these happenings around us and narrow them down to one specific issue.[9]

Similarly, drug abuse, pollution, environmental degradation, and climate change are continuous problems that humanity

[9] You cannot do research on the entire criminal justice system. There are so many stages, there are so many aspects of the criminal justice system. Prosecution, Police, court, prison etc. So, you can identify one topic which you think is more crucial where your interest lies and then work on it. So, narrowing down is a mandatory aspect of formulation of research.

is facing. The way climate change is taking shape has posed a serious threat to places, species, and people's livelihoods. To adequately address this crisis, we must engage in serious research to improve policies to fight climate change i.e., how to engage businesses and industries to reduce carbon emissions, how to help and motivate people and nature to adapt to a changing climate etc.

(b) Experience: We live in a society and family system, and we experience various kinds of problems, such as domestic violence, violence against women, witch-hunting, honour killing, discrimination against women, and discrimination against other communities. We experience and don't go with any assumptions. A researcher should not have preconceived notions. There are laws against witch-hunting, honour killing, and untouchability, but it doesn't mean that they have been completely eradicated. They still exist. The untouchability law was passed in 1955, but it is still being practiced. What are the reasons? Why has this law not succeeded? We can identify the problem and work on it.

Why are people not willing to change their mindset and remove discrimination against transgender people? Around the world, LGBTIQ+ persons face harassment, violence, and discrimination on the basis of sexual orientation, gender identity, gender expression, and sex characteristics. Multiple and intersecting layers of discrimination aggravate experiences; for example, when LGBTIQ+ persons have a disability or a health condition, such as HIV, tuberculosis, or COVID-19, or when they belong to an ethnic or racial minority. Research across the globe was conducted to deal with this crisis. After so many years of efforts and movements, the Supreme Court of India recognized the rights of LGBTQ[10], and later a law was passed by the Parliament ensuring some fundamental rights for

[10] National Legal Services Authority v. Union of India (UOI) and Ors. (2014) 5 SCC 438 (SC).

transgender people.[11] However, cases are still going on in the Supreme Court on whether same-sex marriage should be legalized in the country or not. These are real and first-hand problems persistent in a society that may be identified for research. For instance, what could be the implications of same-sex marriage in the society and family system in India? You will find both kinds of arguments if you hear the deliberations in the Supreme Court before the Constitution bench. People did not even spare the Chief Justice of India whenever he asked any question from lawyers. He is being trolled on social media websites. That may also be a source of problems.

Researchers everyday experience and come across various kinds of relationships between social variables, which need to be elaborated, examined, and further investigated. We have just passed through an extraordinary time of COVID and are still going through the impact of Covid. This pandemic has affected millions of people in all walks of life. Therefore, researchers themselves can be a source of a problem based on their experience.

(c) Technological Advancement: As technology continues to pervade our daily lives, it also poses several tangible threats to humans and their lifestyles. Technology has posed a threat to our privacy as it is becoming easier to access private information using various technological sources. For instance, Uber, the global taxi service, is known to track its passengers' location for five minutes even after the completion of the rides scheduled. While Uber is a globally renowned and trusted app, there are many anti-social elements with similar capabilities that have developed the ability to access our private information via technology such as apps and illegal software. Beyond our physical data, even our online habits are tracked and marketed via cookies

[11] The Transgender Persons (Protection of Rights) Act, 2019.

(which might be illegal at times) to the highest bidders. Often, we put our cyber security at risk as we agree to enter certain websites without reading their terms and conditions, some of which might compromise our privacy. Websites like Google, Facebook, and WhatsApp are such integral parts of our life today that we often have no option but to agree to their terms and conditions. Artificial Intelligence is here, and it's here to stay. There's a lot of speculation and fearmongering related to the impact of AI. Chat GPT is a new AI that has raised concerns for the regulators of higher education across the world. All these issues have become subject matters of research.

(ii) Other Persons as Dynamic Source

Other dynamic sources of research problems include discussion and discourse, in and outside classroom discussion, seminar presentations, interaction with colleagues, fellow learners, teachers, guides, experts, and sometimes even parents.

(a) Discussion and Discourse: Discussion, discourse, debate, and dissent are the very strong foundation of any civilized country or society. That is why the first right we talk about in a civilized democracy that is most fundamental after the right to life is the freedom of speech and expression and freedom of dissent. This is one of the biggest sources of research problems. John Stuart Mill. *"If all mankind minus one were of one opinion, and only one person was of the contrary opinion, mankind would be no more justified in silencing that one person than he, if he had the power, would be justified in silencing mankind."*[12] This statement brings out or highlights the phenomenon of the inquisitive spirit of mankind. He has given a defence in his book, "Spirit of Laws". If the opinion is true, then by suppressing the opinion of that one person, humanity is deprived of truth. And if

[12] An Introduction to John Stuart Mill's on Liberty, 20 March 2020. See https://www.libertarianism.org/columns/introduction-john-stuart-mills-liberty

humanity is deprived of truth, humanity will not progress. Ultimately, we are trying to find out the truth. Suppose the individual opinion is false; even then, humanity loses by suppressing it. Because if the opinion is false, it will be shown to be so, and people will know that this is not true. So, expression is very useful, and it forces us to restate the reasons for our belief system. So, humanity will progress only when a person is free to express themselves, even if they find themselves alone. When Einstein argued his theory of relatively, it was severely criticized and attacked. Society was not ready to accept that truth. Assuming that if Einstein were stopped from expressing his views, mankind would have been deprived of that discovery. Truth is very dialectic.[13] Unless discourse, criticism, and critical thinking are allowed, one cannot reach the truth, which is an object of any research.

Debate, discourse, and discussion are dynamic sources to identify one's research problem. We do panel discussions in seminars and workshops. During the discussion, one gets something that hits our mind, and then decides that "this is the area of concern, which should be explored."

(b) Classroom Interaction: Inside and outside classroom interactions with students and colleagues may lead to the identification of a research problem. Let me have any experience here. When the author got his research problem for the Doctor of Philosophy Programme from such interactions. During the masters at the National Law of India University Bangalore, the author was exposed to cooperative/collaborative teaching methodology. A class where three professors work on a class together. One professor used to tell the importance of reading the text of the Constitution. Another professor used to give an

[13] That is why we study various theories of truth, such as the correspondence theory, coherence theory, and pragmatic theory.

interpretation of the text by the courts, and a third professor used to critique the interpretations made by the Supreme Court. This was a unique and special moment to learn constitutional law from this perspective. A similar method of teaching was replicated while teaching at National Law University (NLU) Odisha. Three teachers going together in the class and trying to give three different aspects were welcomed by the student community. One teacher will explain the constitutional text, while the other will explain the majority opinion of judgment. The author used to discuss specifically the dissenting opinions of any judgement. In one of such classes, we had to discuss Article 21 of the Constitution of India and its interpretation by the Supreme Court in the very first case of *A. K. Gopalan v. State of Madras*.[14] What is the meaning of *life, personal liberty,* and *procedure established by law*? The majority view adopted a literal and positivistic view, while the dissenting opinion of Justice Fazl Ali, which the author discussed in class, argued for a liberal and progressive approach to personal liberty and phrase procedure established by law. The majority of judges were more influenced by the positive school of Jurisprudence and relied on the literal rule of interpretation. Justice Fazl Ali's dissenting opinion created so much discourse leading Indian scholars and jurists to write either in favour or against this dissent. What will be the implication if we adopt due process of law as suggested by Justice Fazl Ali, which the Constituent Assembly refused? So, this kind of discussion was used to do inside the class, and during such discussion some students asked this question: What is the benefit of reading dissenting opinions when it is not law? Whether dissenting opinions have made any contribution to the development of law? And then someday, it triggered the author's mind and then realized that there is no work in India on the contribution of dissenting opinions of Indian Supreme Court judges. Professor Faizan Mustafa, the Vice-

[14] AIR 1950 SC 27.

chancellor and one of the author's co-teachers, then asked him if this could be a good research topic for his Ph.D. This would be the first such work in the country on the contribution of dissenting opinion. Moreover, because the author had developed a habit of reading and discussing various leading dissenting opinions in the class, he readily accepted the challenge. The author did a thorough research on dissenting opinions of Indian Supreme Court judges from 1950 to 2015 for his Ph.D. which was later published as a book in the year 2016.[15]

Digital and social media in recent times have become important means of communication. How have social media interactions impacted the thinking of people, especially the younger generation? How is social media being used as a device, as a tool by the political parties or by the government to influence their decision-making process, to shape their mind, and to influence their voting patterns? So many such problems can be identified from these kinds of social media interactions. It has drastically changed the way youngsters communicate with each other, with their family members, and with their teachers.

(c) Experts and Practitioners: Colleagues, practitioners, guides, and experts will talk about a variety of problems that they observe. For instance, delay and arrears in courts are one of the biggest challenges our Indian justice system is facing in current times. This has been a cause of anxiety for judges, lawyers, policymakers, academia, and people in general. What is the solution? We have to do serious research and find out the solution to the problem. A junior working with a senior lawyer or a judicial clerk working in the office of a judge of the high court, or the Supreme Court has to undergo certain experiences which are likely to give a perspective insight into the functioning of courts and problems related to

[15] Yogesh Pratap Singh, Judicial Dissent and Indian Supreme Court: Enriching Constitutional Discourse, Thomson Reuters, 2016.

judicial decision making. One would be asked to do various kinds of research during this period.

During the author's tenure as Deputy Registrar (Research), he was asked by then the Chief Justice of India to do research on the inadequacy of workforce and infrastructure in subordinate judiciary, which is one of the main reasons for arrears and delays in Indian Courts. The inadequacy of the judicial workforce, staff, and infrastructure in the subordinate judiciary is a fundamental issue essentially related to access to justice which is a fundamental right declared by the Supreme Court. This is also a concern affecting judicial independence and the credibility of the judiciary as an institution which is one of the basic features of the Constitution. Pursuant to this research, a report entitled *"Subordinates Courts of India: A Report on Access to Justice (2016)." was prepared.* The Report was referred by Hon'ble Supreme Court (Chief Justice T.S. Thakur, Justice Dr. D. Y. Chandrachud, Justice L. Nageswara Rao) in *Imtiyaz Ahmad v. State of U.P.*[16] and later placed in the Parliament of India.

(d) Research Supervisor: Many times, students who are desirous of pursuing research for a degree or a Ph.D. leave it to the supervisor to suggest the research problem. This is so partly because they do not want to strain their mind and partly because they begin with a sense of total dependence on their supervisor. Whatever the reason, the fact remains that most research students look up to the supervisor to get a research problem assigned to them. This is being practiced in India, but this is not the ideal way of doing it.

In addition to the above-mentioned sources, there is a list of research priority areas that some research agencies prepare. This may be another source of research problems. We have various funding agencies which give funds to conduct quality

[16] Decided on 02 January 2017.

research. Moreover, they also identify the area where research is to be conducted. Indian Council of Social Science Research is one such agency that identifies subjects of research priority and gives funds on a preferential basis. Similarly, special funds are earmarked by some research-sponsoring organizations for election studies at the time of elections. There are professional researchers who quickly change their research interests in order to take advantage of such research funds. Various departments of the Government of India give money to do research. Department of Law and Justice, every year, list certain areas where research is required and allocates funds on a preferential basis.

Criteria for the Selection of a Research Topic

Having examined the sources of research problem, it is important to explore some guiding principles which must be taken into consideration while making a choice of a research problem. Some of these factors are internal, and some are external, which helps in the formulation of research problems.[17]

Internal	External
• Interest • Competnece • Resources • Time	• Researchability • Data Availibity • Novelty • Relevance • Facilities • Magnitude • Research Personnel • Ethics • Feasibility • Social Relevance

[17] These are the internal and the external factors or criteria.

Internal Factors

The internal factors or criteria are those criteria that are determined by the researcher, like a researcher's Interest, researcher's competence (or expertise), researcher's own resources and time to carry out any specific research.

(i) Interest of the Researcher

The researcher's interest is considered the most important of the factors guiding the formulation of a research problem. So, a researcher must ask this question to herself/himself whether one is really interested in this area because this will take so much time and energy. Therefore, it helps if the researcher chooses a topic that interests and challenges him/her. Otherwise, it might become difficult for the researcher to develop and sustain the necessary levels of perseverance and motivation. Interest in a problem is often driven by the researcher's educational background, experience, outlook, and sensitivity.[18] Scholars also suggest that problems should be identified preferably out of one's inner experience, which one is able to suffer at an intellectual plane.

(ii) Competency of the Researcher

Mere interest in a problem may not be enough to decide on a research topic. The competence of the researcher to design and undertake research enterprise (including data acquisition, data analysis, etc.) also plays an important role. A researcher must have the expertise to plan and carry out a study of the problem. He/she must possess adequate domain knowledge, relevant methodology, and statistical procedures. If one has to collect data and she/he is not a good interviewer, listener, or keen observer, there is a good possibility that important data will be missed out. Therefore, one should make an honest decision at the beginning.

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[18] Mohd. Shoket, Research Problem: Identification and Formulation, International Journal of Research, Volume I, Issue 4 (2014).

(iii) Researcher's Own Resources

Researchers' own resources are an important consideration. In the case of research funded by the researcher, consideration of the researcher's own financial capacity is quite pertinent. If it is beyond the researcher's financial capability, the researcher may not be able to complete research work except he/she gets supported financially.

(iv) Time

Research is a time-consuming process; hence the ability to allocate sufficient time to a given research should be properly considered when formulating the problem. Sometimes, out of curiosity or excitement, one selects some problems for empirical research with a large sample size. Nevertheless, when it comes to reality, one finds it difficult because of the paucity of time. Then, one tries to find some shortcut methods which dilute the research quality.

External Factors

External factors (criteria) are those that are not researcher-determined. This includes the researchability of the problem, data availability, novelty, research facilities, feasibility, usefulness and social relevance, research personnel, and ethical issues.

(i) Researchability of the Problem: The problem should be researchable. Meaning thereby it should be amenable to finding answers to the questions involved in it through the scientific method.

(ii) Data Availability: If the research title needs a collection of information (journal, reports, proceedings) before finalizing the title, it is important to ensure that these are materials available and in the relevant format.

(iii) Novelty: The problem must have novelty. There is no point in wasting time and energy on a problem that has already been studied thoroughly by others. This is the biggest problem of

Indian Universities offering PH.D. programme. Most of the Ph.D.'s are repetitions of work already done but submitted in different Universities on different covers, with slightly different titles and different languages. This is because we do not have a comprehensive database where we can find out how many people have worked on a given topic. Because we can't verify, the same problem, same results, same conclusions are being submitted in different universities. There is no nobility, and there is no contribution to existing literature.

(iv) Relevance: It is important always to choose a topic that suits one's interest and profession. Nevertheless, it is necessary to ensure that one's study adds to the existing body of knowledge. At times, research loses its social context with the passage of time, so there will be no use for the research. So, one has to keep in mind that one's research will take at least three years and when this research will be published, whether that will be relevant. It should not be a futile exercise.

(v) Basic Research Facilities: Any quality research requires certain minimum facilities such as a well-equipped library, suitable and competent guide, data analysis facility, etc. Hence the availability of these facilities relevant to the problem must also be considered.

A well-equipped library is an essential aspect of any quality research. And unfortunately, this is not given priority in our universities. There are many good libraries in the country, but there are many libraries, especially in National Law Universities or reputed private Universities, which are not well-equipped to carry out any quality research. That is also a concern. But this problem can be mitigated. There are other good libraries available in the country, and if someone really wants to do quality research, she/he can take a recommendation letter from a parent university and can visit other good libraries where quality literature and quality databases are available.

Another concern, especially in national law universities and private universities, is the non-availability of suitable guides.

Universities have a limited number of faculty members who could be appointed Ph.D. supervisors irrespective of their domain knowledge. It was brought to the notice of the UGC that many universities are hiring services of supervisors who do not happen to be regular faculty members of the university or its affiliated postgraduate colleges. University Grants Commission (UGC) directed universities to not engage retired teachers of universities and postgraduate colleges, visiting and guest faculty members for supervising MPhil and PhD scholars. This practice is in violation of the UGC (Minimum Standards and Procedures for Award of MPhil/ PhD degree) Regulations, 2009.

UGC clarified that the Ph.D. supervisors must be regular faculty members of the universities. However, it is pertinent to mention here that in cases of interdisciplinary research, the practice of hiring co-supervisors from other institutions is a good practice that the UGC did not prohibit.

There's a whole range of software packages to analyse the data available. A researcher collects data by preparing a scientifically designed interview schedule or survey schedule. To analyse these raw data, one needs these tools. SPSS is a sophisticated tool that is being used by many social science researchers. The software supports the analysis of social science data or management data. There is other software available, but it's not very prevalent in law schools.

(vi) Magnitude of the Research: A researcher should be very careful while deciding the scope of research. Aspects that one is going to cover, and leave should be specifically mentioned in one's research proposal. The first-time researcher, out of excitement, thinks that they can study the entire universe, but actually, it's not possible in a limited time and with limited resources. This becomes more difficult when a researcher is

pursuing research along with her/his regular teaching work in the university.[19]

(vii) Research Personnel: Many times, one needs to engage other research personnel due to the vast sample that one has selected. And therefore, the competency of the research personnel engaged will also be very crucial. So, one needs researchers who will help and has to ensure that they also get similar kinds of resources so that they can execute their work. However, in developing countries, research has not yet become a prospective profession, and talented persons are not attracted to research projects.

(viii) Ethics: In formulating the research problem, one should consider some ethical issues as well. Sometimes, during the research, the sample population might be adversely affected by some questions. In ICT, some scenarios might occur, especially research-related information security, which might concern certain authorities. Therefore, it is always good to identify ethics-related issues during the research problem formulation itself. For instance, if one is going to examine the impact of COVID on tribals in the districts of Arunachal Pradesh or in the districts of Assam or any other tribal-populated northeastern state, one has to first ensure that the sample has agreed to talk.

[19] In our universities especially in NLUs a teacher gets a lot of additional work apart from teaching. It becomes more difficult to spare time for research after having so much of teaching work and additional administrative assignments. Teachers are overburdened with teaching and extra-curricular activities which hardly leaves any time for doing quality research. Because universities participate in NAAC and NIRF, they mandate their faculty to produce Scopus Index, Web of Science papers, if not these, at least UGC CARE publications. But practically it becomes very difficult. There is no time given to teachers to carry out quality research. In the universities which are focusing more on research, and they are getting good publications, like Jindal is one example, Azim Premji is another example, where teachers are given not only time but good incentives to produce quality papers. National law schools will have to inculcate that culture.

A researcher should not ask such questions which they are not comfortable to answer.

(ix) Feasibility: A problem may be a new one and also important, but if research on it is not feasible, it cannot be selected. Sometimes out of excitement, one selects a problem, but it is not feasible. Availability of data, availability of cooperation, availability of guidance, availability of other facilities, experience, and creativity are essential.

(x) Usefulness and Social relevance: Above all, the study of the problem should make a significant contribution to the concerned body of knowledge or to the solution of some significant practical problem. Research should be practically and socially relevant.

Formulation of Research Problem

There are two broad approaches to problem formulation-deductive and inductive. The proponents of positivist epistemology[20] support the deductive approach, while the supporters of ethnomethodology[21] prefer the inductive approach.

The deductive approach starts out with a general statement or hypothesis and examines the possibilities to reach a specific, logical conclusion. It takes a set of propositions derived in an a priori manner through deductive reasoning from a theoretical premise as starting point of problem formulation. These propositions define the lines of inquiry and are tested for their validity in terms of the systematically collected evidence. In

[20] Positive Epistemology refers to the school of research thought that sees observable evidence as the only form of defensible scientific findings. Positivist epistemology, therefore, assumes that only "facts" derived from the scientific method can make legitimate knowledge claims. It also assumes the researcher is separate from and not affecting the outcomes of research.

[21] Ethnomethodology is a method of sociological analysis that examines how individuals use everyday conversation to construct a common-sense view of the world.

simple words, it views problem formulation in terms of developing a set of hypotheses that will be tested in the inquiry. For this purpose, it insists on having a research design, a representative sample, an idea of independent and dependent variables, and a standard instrument.

The inductive approach makes broad generalizations from specific observations. It recommends a "direct naturalistic examination of the empirical social world" for purposes of problem formulation. It implies that the investigator will first acquire a "close and reasonably full familiarity" with the area of life under study and will then progressively sharpen his focus as the inquiry proceeds. The inductive approach expects a researcher to go to the field with an open mind, having no a priori assumptions, and to develop, focus and sharpen his investigation in the light of his understanding of the reality in the field so that the research problem is grounded in the empirical world. In Blumer's words, it is a flexible procedure "in which the researcher shifts from one to another line of inquiry, adopts new points of observation as his study progresses, moves in new directions previously thought of, and changes his recognition of what are relevant data as he acquires more information and better understanding." Clearly, the inductive procedure of problem formulation stands in sharp contrast to the fixed and circumscribed procedure of the positivist deductive procedure. However, this does not mean that there is no direction to the inquiry. It means that the focus is originally broad but becomes progressively specified as the inquiry goes forward.

The prime task involved in the formulation of the research problem is framing the terms of inquiry. And specific terms of inquiry may be formulated either in terms of research questions or guiding hypotheses. R. L. Merton has explained three principal components of a research question: originating question, rationale question, and specifying question. The originating question is a statement of what one wants to know, and it can range from ascertaining facts to explaining empirical uniformities or variations. The question of rationale states why

the originating question is worth asking and what will happen to other parts of knowledge or practice as a result of answering the question. The specifying questions are concerned with specifying the conditions that point toward possible answers to the originating question in terms that satisfy the rationale.

Similarly, the terms of inquiry may also be formulated in the form of hypotheses. A hypothesis is an idea or explanation for something that is based on known facts but has not yet been proved.[22] It is a hunch or testable proposition, the validity of which remains to be determined. Framing the terms of inquiry in the form of a hypothesis presupposes some prior knowledge about the phenomenon. However, in both situations, specificity and clarity will remain two important qualities of sound formulation of the research problem because formulation of the problem is a process of progressive elimination of the irrelevant and specification of the relevant. It should be specific in its scope, coverage, perspective, focus, universe, and sample. Similarly, it should be clear, and no ambiguous, vague, or imprecise expression should be used.

Conclusion

Identification and formulation of the research problem is the first and most important step of any research enterprise. Therefore, it should be processed systematically, scientifically, and objectively. This paper has outlined some of the basic points that a researcher has to keep in mind while identifying and formulating her/his research problem.

Quality research is critically lacking in Indian universities. Out of India's 900-odd universities, only a handful conduct good-quality research and have their papers published in reputed international journals. The rest are largely teaching-focused universities doing little and probably mediocre research. In the global rankings, viz., the Times Higher Education Rankings and the QS Rankings, India has no university in the top 100. The

[22] https://dictionary.cambridge.org/dictionary/english/hypothesis.

UGC has to tighten the process of awarding Ph.D. in Universities, especially in private universities. Therefore, the author's suggestion to researchers intending to do research is to identify a real problem that requires attention and do authentic research. Do not repeat the same thing that has been written, suggested, or concluded by others.

MODALITIES AND FOCAL POINTS IN RESEARCH: A STUDY WITH SPECIAL REFERENCE TO ACTION RESEARCH

Prof. (Dr.) T.R. Subramanya*

Introduction

Research is an action that translates knowledge into action. So, when research translates knowledge into action, it must always be contextual and should be of some use and help to society. Thus, we may say that the object of action research is to simultaneously investigate and solve a serious issue. The term action research, which was first adopted by Professor Kurt Lewin, a social psychologist, during World War II, revolves around four steps, namely, planning, action, analysis, and conclusion.[1]

Further, according to Greenwood and Levin, action research is social research carried out by a team encompassing a professional action researcher and members of an organization or a community seeking to improve their situation. Unless and until it has contemporary relevance, any type of research which is being done is not going to be reckoned with or recognised by anybody.

Types of Action Research

The two popular kinds of action research are participatory and practical action research. Under participatory action research, the participants ought to be members of the community that is

* Dean, CMR University School of Legal Studies, Bengaluru
Former Vice-Chancellor, Karnataka State Law University, Hubballi, and
Former Legal Advisor, Kingdom of Bahrain.

[1] Leon Mathew, 'Action Theory and Action Research', 15 Soc. Probs. 420 (1968). https://heinonline.org/HOL/Page?public=true&handle=hein.journals/socprob15&div=46&start_page=420&collection=journals&set_as_cursor=0&men_tab=srchresults.

being studied. The participants are directly involved in the research process and outcome. While in the case of practical action research, the said research is designed to address and focus on specific issues. However, it may be noted that both kinds of action research are directed toward future growth rather than toward theoretical knowledge. These two types of action research indicate that it is formative in nature and hence based on solving immediate problems and improving the existing systems.[2] Thus, it may be said that this form of research has practical significance and is usually not theoretical in nature because it is reactive and derived from surroundings.

Action Research in law aims to provide a remedy for the underlying problems prevailing in society. As the objective of law is to help the citizens to exist harmoniously, action research is considered an appropriate path by which legal and social issues can be addressed by arriving at long-term solutions.[3] However, apart from action research, there are other forms of research as well, which are aimed towards curbing the societal issues prevailing at present and which might arise in the future. These forms of research include the prognostic type of research, which is based on the study and assessment, to forecast the shape of things that are expected to come in the near future. Another form of research includes quality action research which aims to solve real or complex problems. However, in order to ensure that the said research serves society in a righteous way, it must be carried on by a critical scholar.

Role of Critical Scholar in Research

In layman's terms, a critical scholar is one who restores the text. In other words, a critical scholar is one who restores texts, furnishes the sources, investigates the authorship, and edits the documents. Many scholars have opined that a critical scholar

[2] Paul T. Wangerin, Action Research in Legal Education, 33 WILLAMETTE L. REV. 383 (1997). https://heinonline.org/HOL/Page?handle=hein.journals/willr33&id=393&collection=usjournals&index=.

[3] Supra 1.

must always make a sincere attempt to collect documents before editing them. They must ensure that there is continuity maintained in their process of research and its presentation. Moreover, this rule of continuity is fundamental for every scholar, who must follow the same while undertaking research writing. It will not be considered good research if the researcher fails in this endeavour. For example, Salman Rushdie authored the book 'The Satanic Verses.' When he wrote the Satanic Verses, he made a few fair comments about his faith despite being a believer in the faith. Merely because he had made a few comments, he cannot be denied being called a critical scholar.

According to Karl Marx, critical scholarship "seeks not only to interpret the world but to change it."[4] In order to have a real scholarship, a critical scholar should remember certain rules or qualities which he should gradually cultivate over a period of time. The first rule is love for labour. Labour here indicates the capacity to work. The second rule is developing a taste or liking for the subject. While the third factor is about having patience, the fourth quality, which a research scholar is supposed to imbibe in themselves, is intellectual honesty, which is free from all forms of bias and subjectivity in the report. Amongst the above, objectivity, as well as intellectual honesty, are considered to be the two most important qualities to be followed by every researcher scholar. Many scholars also believe that these qualities are fundamental prerequisites and be sincerely followed by every critical scholar when the topic of research is community oriented.[5]

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[4] Christopher Pollard, "Karl Marx: His Philosophy Explained", July 4th, 2022, 9:00pm, https://theconversation.com/karl-marx-his-philosophy-explained-164068.

[5] Katie Lynn Milton-Brkich, Kristen Shumbera, Becky Beran, "Action Research", Science and Children, Vol. 47, No. 9, Professional Development (Summer 2010), pp. 47-51 (5 pages), https://www.jstor.org/stable/43175990?searchText=action+research&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Daction%2Bresearch&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3Ab831ee50f20a772dda6473114936905a.

Impact of Action Research in Amending the Laws

The Criminal Amendment Act was passed in the year 2013, and the objectives of the statute were to understand the reasons behind the increase in crimes and to protect women and children from hardcore criminals. For the purpose of carrying forward the objective of the Act several provisions have been incorporated in criminal law statutes with the aid of action research which was undertaken by the law makers. One such example is section 354 of the Indian Penal Code, which relates to sexual harassment and its forms.[6] Another example would be section 357 of the Criminal Procedure Code,[7] which speaks about the compensation fund to be awarded to victims. And this victim's compensation fund, which the central government constitutes, will be disbursed through the state government under the Legal Service Authority.

Yet another classic example, which helps us to understand the functioning of action research is section 326(1) of the Indian Penal Code,[8] which is the crime of acid attack. This provision of the Indian Penal Code was drafted to curb the inhuman act of

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[6] B. D. Singh, "Issue of Sexual Harassment- A Legal Perspective", Indian Journal of Industrial Relations, Vol. 36, No. 1 (Jul., 2000), pp. 79-91 (13 pages), https://www.jstor.org/stable/27767699?searchText=sexual+harassment+under+IPC&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dsexual%2Bharassment%2Bunder%2BIPC&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A4658701c20086ef03918699694fe4793.

[7] K. I. Vibhute, "Compensating Victims of Crime in India: An Appraisal", Journal of the Indian Law Institute, Vol. 32, No. 1 (January-March 1990), pp. 68-81 (14 pages), https://www.jstor.org/stable/43951300?searchText=section+357+Crpc&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dsection%2B357%2BCrpc&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A59cd84617ac02059dd474cc87f228308.

[8] Sanjeet Bagcchi, "Acid attack victims should have same rights as disabled people, SC rules", BMJ: British Medical Journal, Vol. 351 (14 Dec 2015 - 20 Dec 2015), https://www.jstor.org/stable/26523779?searchText=acid+attack+in+india&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dacid%2Battack%2Bin%2Bindia&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A3a61df37650e0010df25aebb037d5b07.

acid attacks that were taking place across the country, particularly against girls in their educational institutions. However, for the purpose of amending this provision, proper research was carried on. Several questions had to be researched, such as how many cases are filed in different states. How many accused have been booked for acid attack cases? In how many cases the court proceedings are completed and how many have been convicted? The research undertaken to determine all these questions is known as action research. And it is due to this action research that the government is able to bring in other changes in the legislation. Based on this research, the comprehensive amendment was brought in the year 2013.[9]

Action research was also successfully adapted for analysing whether legislation like, 'The Right Information Act, which was enacted in the year 2005, was being successfully implemented or not. The said research was undertaken to determine whether the members of the Panchayat and Panchayat Samiti are aware of the Right to Information Act.[10] Though some of them were aware of the law, they did not know the provisions of the legislation. Similarly, the MGNREGA legislation introduced earlier brought in a few changes during the COVID pandemic.[11]

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[9] "Developments in the Law: Indian Law", Harvard Law Review, Vol. 129, No. 6 (APRIL 2016), pp. 1652-1778, https://www.jstor.org/stable/44072339?searchText=indian+criminal+law+amendment+in+2013&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dindian%2Bcriminal%2Blaw%2Bamendment%2Bin%2B2013&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3Aceedf3b4aa832d053ccb617b38d674bf.

[10] Roy Peled & Yoram Rabin, "The Constitutional Right to Information", 42 COLUMN. HUM. Rts. L. REV. 357 (2011). https://heinonline.org/HOL/Page?public=true&handle=hein.journals/colhr42&div=14&start_page=357&collection=usjournals&set_as_cursor=5&men_tab=srchresults.

[11] Sony Pellissery, Sumit Kumar Jalan, "Towards transformative social protection: a gendered analysis of the Employment Guarantee Act of India," Gender and Development, Vol. 19, No. 2, Social protection (July 2011), pp. 283-294 https://www.jstor.org/stable/41305995?searchText=MGNREGA&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3DMGNREGA&ab_segments=0%2Fb

Under these new schemes, the government was to construct houses for the underprivileged and provide employment for a number of days in a year. However, the survey conducted revealed the progress of this scheme, the statistics were unbelievable. The government realised that though the act was functioning, it had a lot of problems at the implementation stage. And to overcome these hurdles, action research had to be carried on as it was considered a potential tool for understanding and solving the issues related to the implementation of the legislation.

Eminent economist Mohammad Yunus, a professor at the Chittagong University in Bangladesh, had conducted action research to assess poverty.[12] He surveyed various villages in rural regions around Chittagong for the purpose of collecting data on rural poverty. He was shocked to learn about their condition through his research. He figured out that poverty was dominant, and the underprivileged, whom the businessman was exploiting, lacked basic essential facilities like food, clothing, and shelter. Women and men residing in these rural areas were given some money as loans by local money lenders, and heavy interest was being charged to them. For instance, if Rs. 100 were given to a said villager, he would have to return double the amount by the same evening. And all the profits being made were taken away by the moneylenders. Looking at the plight of these villagers, Mohammad Yunus selected 20 women in one of the villages and said he would finance them personally and found measures through his action research so that he could eliminate poverty[13]The success story made the

asic_search_gsv2%2Fcontrol&refreqid=fastly-default%3Aa456299d0225fe70b8fa3e325dec7b75.

[12] Julie L. Ozanne, Bige Saatcioglu, "Participatory Action Research", Journal of Consumer Research, Vol. 35, No. 3 (October 2008), pp. 423-439 (17 pages). https://www.jstor.org/stable/10.1086/586911?searchText=action+research+on+poverty&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Daction%2Bresearch%2Bon%2Bpoverty&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A7f8f72c4757efd448b23aad701646cf4.

[13] Katherine Esty, "Lessons from Muhammad Yunus and the Grameen Bank: Leading Long-Term Organizational Change Successfully," In: Tirmizi, S.,

government of Bangladesh lend money through banks and later led to the establishment of Grameen banks.

Thus, from the above illustrations, it is clear that action research involves an investigation of some component or aspect of a social system. Such a system is composed of humans engaged in interaction, using gestures and language, resulting in the creation of impressions and the transmission of information. And an action researcher is one who 'engage in careful, diligent inquiry not for the purpose of discovering new facts or revising accepted laws or theories, but to acquire information having practical application to the solution of specific problems related to their work'.[14]

Other Forms of Research

Participatory Research: Another type of research that may be adopted by the researchers, is prognostic research which is based on the analysis of the present set of circumstances. For example, Karl Marx wrote the book Das Capital and Poverty of Philosophy. One was written in 1846, and the other one was written in 1848. He was a German who observed and understood the state of affairs in Russia. Based on his observations, he was analysing and wrote about what the Russian emperors who were examining the pathetic conditions of the proletariat to the working class. Based on his examinations, he drew out the conclusion that Soviet Russia

Vogelsang, J. (eds) Leading and Managing in the Social Sector. Management for Professionals. Springer, Cham.
https://link.springer.com/chapter/10.1007/978-3-319-47045-0_3.

[14] Wanda T. May, "Teachers-as-Researchers" or Action Research: What Is It, and What Good Is It for Art Education?," Studies in Art Education, Vol. 34, No. 2 (Winter, 1993), pp. 114-126
https://www.jstor.org/stable/1320448?searchText=action+researcher&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Daction%2Bresearcher&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A1a67dc1a4c82231f3d8da11cbed133ac.

was divided into two classes, namely, the ruling class and the working class/proletarians.[15]

He further understood that the fight between the working class and the ruling class is always perennial. However, in most of the years, the ruling class will succeed because the law is vested in their hands. And since it is not possible to defeat the ruling class, the fight between both classes is constant, and the proletariat or the working class will only keep fighting. And the day they are able to defeat, the proletarian class will take up the dictatorship position and become superior. He made these observations in 1846 and 1848 but then, the Communist society came to be established soon after the Bolshevik Revolution of 1917.

Progressive Research: In 1914 and in 1917, the reality came true of what Marx said in the late 1840's which led to the formation of a communist society, although it took 68 years. He said that the major changes would allow the workers of Soviet Russia to unite. This is called progressive research. H. G. Wells was a famous historian who wrote world history. In another book published by this author in the late 1930's known as 'The Shape of Things to Come in the Future, he predicted that when the Second World War was about to begin, Iron Age was going to be replaced by the plastic age. And towards the end of the war, the prophecy became true, and the iron materials were replaced by plastic.

Creative Research: Creative research is called the imagination of the mind. The imagination of the mind is such wherein one thinks to himself instantly about what should be and how things should be done. For instance, M.F. Husain, who is a great artist, has the capacity to draw in 2-3 minutes and

[15] Sung Sil Lee Sohng, "Participatory Research and Community Organizers," 23 J. Soc. & Soc. WELFARE 77 (1996). https://heinonline.org/HOL/Page?public=true&handle=hein.journals/jrlsasw23&div=50&start_page=77&collection=usjournals&set_as_cursor=0&men_tab=srchresults.

then explain the same for almost two hours, even though it might be a drawing of 2 simple lines.[16] Another famous artist whose paintings and drawings originate in Goa is Mario Miranda. He would draw the said picture and explain for hours. What is to be noted here is that when he draws a line, he represents the creative imagination of a man. The creative imagination of the man is such a memory, wherein he will be able to find so much creativity in the mind. For instance, our Indian classical singers and dancers across the country have to apply their creativity with respect to their performances.

Comparative Research: Comparative research rose to prominence as writers influenced by the institutional developments in societal attitudes were made responsible for their writings. Comparative sociological research is undertaken to understand the functioning of two societies.[17] For instance, research is undertaken to understand the takeaways of French from the British. And if there are any takeaways, what are they? Could it be assimilated into the preference system? And if this could be stimulated in the French system, how should it be done? What is required to be done by society? And the research undertaken to answer these questions is called comparative research.

Historical Research: Historical methodology is composed of four sources. The scholar should be an expert in the art of heuristics- collecting materials from the following four sources.: The first from inscriptional evidence. The second one is

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[16] Ernest Dichter, "Seven Tenets of Creative Research," Journal of Marketing, Vol. 25, No. 4 (Apr., 1961), pp. 1-4 https://www.jstor.org/stable/1248983?searchText=creative+research&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dcreative%2Bresearch&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A53e757bec6492e8c968b859c041e4e9c.

[17] Hessel E. Yntema, "Comparative Research and Unification of Law," 41 MICH. L. REV. 261 (1942). https://heinonline.org/HOL/Page?public=true&handle=hein.journals/mlr41&div=20&start_page=261&collection=usjournals&set_as_cursor=0&men_tab=srchresults.

archaeological evidence, the third one is numismatic evidence (study of coins), and the fourth method is literary evidence. Forms of literary evidence are available through literature, poems, court poets of the time, and other materials. Thus, by examining the said sources, the researcher will be in the position to depict what is true and what is not true.[18]

Thus, from the above types of research, it is clear that different types of research may be adopted in law.

Irrespective of the method of research adopted, an analysis should always begin with criticism in every research writing. In research writing, there are four elements. The four elements are heuristics (the art of collecting the sources), analysis, criticism, and exposition. A researcher should build the art of criticism with objectivity, drawing relevant questions and answering them in a logical manner.

Conclusion

Action research in legal education was brought after the introduction of the national law school system in India. It brought reforms in curriculum, links with the corporate sector, industry, and policy-making institutions, and catering to global demand became the ground for action research in law. Action research is recognised as an essential ingredient of a developing society. It helps in understanding that when the root cause of a problem is analysed and studied, only then can solutions be visualized.[19]

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[18] Robert Fisher & Phillip Dybicz, The Place of Historical Research in Social Work, 26 J. Soc. & Soc. WELFARE 105 (1999) https://heinonline.org/HOL/Page?public=true&handle=hein.journals/jrlsasw26&div=39&start_page=105&collection=usjournals&set_as_cursor=3&men_tab=srchresults.

[19] Z. Toeman, Laura Thompson, "Action Research", The Scientific Monthly, Vol. 70, No. 5 (May, 1950), pp. 345-346 https://www.jstor.org/stable/19961?searchText=action+research&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Daction%2Bresearch&ab_segments

Over a period of time, many legislations that were drafted have been an outcome of participatory research. Many bodies, especially NGOs, have addressed several social problems and researched the dimensions of law, and helped in countering problems related to child labour, child trafficking, problems faced by the third gender, etc., by adopting different methods of empirical research like survey, interview, a questionnaire to access the gravity of the problem.[20] NGOs normally interact directly with the people of a community facing a social problem and arrive at an understanding of the problem. However, in the legal arena, action research has proved to be the right method to improve society and its laws so that it will meet the norms of an economically progressive society. Due to this type of research, many legislations have been amended, and new legislations are being drafted and articulated as an outcome of action research done by different authorised bodies.[21] The chief aim of action research is to collaborate with the prevailing community, understand the situation, and develop strategies to resolve the problems. It targets to develop an understanding with the community finding practical solutions for evident issues.

=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A68ee9399d9031f6f449fdecfbfa8c7f2.

[20] Amanda L. Nolen, Jim Vander Putten, "Action Research in Education: Addressing Gaps in Ethical Principles and Practices", Educational Researcher, Vol. 36, No. 7 (Oct., 2007), pp. 401-407 https://www.jstor.org/stable/30136071?searchText=action+research&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Daction%2Bresearch&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A0db8489482a6423de338890f6ad51430.

[21] Supra 2.

RESEARCH HYPOTHESIS AND STEPS TO TESTING HYPOTHESIS

Prof. (Dr.) R. N. Sharma*

The progress of the society is dependent on the thought provoking process. The thought provoking process raises may questions to be answered. The methods of obtaining answers to such questions may be informal, formal or may be based on scientific procedure. These procedures in simple language are called research through which we can find answer to the questions. Thus, we can say that research is a human activity based on intellectual application in the investigation of matter under study.

The Primary aim of research is to revisit the knowledge available and theories in existence and try to refute them through the process of investigation of a problem in hand by giving new Interpretation to facts and develop methods & systems for advancement of human knowledge for the betterment of society.

According to concise Oxford dictionary: 'it is an endeavour to discover new or collate old facts etc. by the scientific study of a subject or by a course of critical investigation".

In simple words, the research is an inquiry or search for fact or truth based on original sources of knowledge. It is also possible through observation of new facts and by formulation of new thought and ideas.

We can also say that it is a systematic examination of the observed information to find the answers with a view to institute appropriate changes for an effective solution to the issue.

* Visiting Professor of Law, National Law University and Judicial Academy, Assam

The research process to be effective and scientific should have following steps:

Formation of topic, Hypothesis, Conceptual Definitions, Operational Definitions, Gathering of Data, Analysis of Data, Test –Revising of hypothesis and Conclusion, Iteration if necessary.

In this whole process formulation and testing of hypothesis is most important stage, without which research work cannot be completed. In this chapter we will discuss the steps which should be under taken for formulation of research hypothesis and its testing

What is Hypothesis?

It is an intelligent guess or prediction that gives direction to the researcher to answer the research questions. It helps researcher in learning the art of how to answer the research question? It is a formal statement of the tentative or expected or explanation for the relationship between two or more variables under study. The hypothesis gives the formal statement stating tentative prediction and explanation of the relationship between the variables which the researcher has selected for conducting the research. It helps to translate the research problem and objective into a clear explanation or prediction of the expected results and outcome of the study. So, it helps in reaching out the conclusion of the research problem and what will be the outcome of the research study. Sometimes we fail to answer all the questions framed for the hypothesis, then, in such a case, we can conclude by saying that the remaining research questions have been left out for conducting the further research on that topic. It is derived from the research problems, literature review and conceptual framework from where you will have the hypothesis. Thus, there are three sources of hypothesis, first is the research problem, second is the review of the literature, and third is the conceptual framework which researcher has in his/her mind.

What is the contribution of hypothesis in research study?

It provides clarity to the research problem and research objective. Thus, once a person goes to the hypothesis, he can understand what the research problem is? And what are the research objectives which Mr. X had undertaken? It describes, explains, or predicts the expected results or outcome of the research. It also indicates the type of research design that is whether it will be quantitative research or qualitative research? It directs the research study process that is what will be the process of conducting the research? The direction can also be sought from the hypothesis. It identifies the samples of the research study that is to be investigated or estimated. So, the samples can be identified for conducting the research by applying the principle of hypothesis. It facilitates the data collection, data analysis, and data interpretation. So, hypothesis contributes in many ways in conduction of the research.

The purpose and function of a hypothesis:

It offers explanation for the relationship between variables that can be empirically tested. So, through hypothesis we can explain the relationship between the variables which are under empirical study. It furnishes proof that the researcher has sufficient background knowledge to enable him or her to make suggestion in order to extend existing knowledge on the subject. So, what he wants to extend, what is available through the review of literature and what more can be added and what more is required to be added that can be a secondary work of the research. It gives direction to an investigation, then it structures a next phase in the investigation and therefore furnishes continuity in the examination of the problem. As the word research itself indicates, what has already been searched you are re-searching that. So, what has been left out by you will be completed by further research by the next researcher.

What are the characteristics of hypothesis?

As we all know that hypothesis is the most important component of the research, we should understand what its characteristics are. The good hypothesis must be written in the form of declaration, and the language used should be in the present tense, not the past or future tense. It must contain variables, population under study and should be relevant to the research problem and the objectives. It should contain the following:

1. What are the variables which you want to conduct study?
2. What type of population will be covered by your study? and
3. How is it related to the problem and the objectives with which you are conducting the research?

Accordingly, a good hypothesis should have the following characteristics:

Conceptual clarity	**Empirical reference**	**Objectivity**	**Specificity**
Relevance	**Simplicity**	**Availability of technique**	**Testability**
Consistency	**Purposiveness**	**Verifiability**	**Profundity of effect**
		Economical	

We will discuss these one by one.

1. Conceptual clarity: A good hypothesis consists of clearly defined and understandable concepts. So, concepts

should be clearly defined, and it should be understandable by everyone. It should be in simple sentence, not more than of one line sentence. It should not be of 3–4-line sentences, that will make it more difficult and will make it vague. It should be stated in very clear terms, the meaning, and implications of which cannot be doubted. So, it should be clear and in lucid terms. After going through the hypothesis, one should not have any doubt in his mind about the concept which is being followed while formulating the hypothesis. A good hypothesis states the casual link between Independent and dependent variables, which is later evaluated by using inferential statistical tests. So, the hypothesis concept should be clear, and should reflect the casual link between independent and dependent variables, so that they can be evaluated later by using the statistical data.

2. Empirical reference: Research must have ultimate empirical reference. A good hypothesis must have empirical basis from the area of inquiry. So, your hypothesis must be based on the empirical survey or literature, based on the literature review.
3. Objectivity: Hypothesis must be objective based. Objectivity in data collection and should be able to keep research activity from researcher's value judgment. So, research activity should be kept in view with values in mind, that the judgments or decisions which you will be arriving at the conclusion should be verifiable.
4. Specificity: A good research hypothesis must be specific, not general and should explain the expected relations between variables that is exercise and stress. So, it should not be only a theoretical exercise, it should be based on a practical exercise after application of mind, you should have the expected relationship between the variables which you have selected for conducting the research.
5. Relevance: The hypothesis should be relevant to the problem under enquiry. So, it should not be only a

theoretical exercise. It should be based on practical exercise. After application of mind, you should expect relationship between the variables which you have selected for conducting the research. The word relevancy is defined very well under the Indian Evidence Act that it should have some bearing with the problem which you are conducting the research. In addition, hypothesis must have relevance with the objective under enquiry. It should be relevant to problem, as well as it should be relevant to the objective of your research.

6. Simplicity: A hypothesis should be formulated in simple and understandable terms. It should require fewer conditions and assumptions. You should not assume many things and you should not have put certain prerequisites for completion of your hypothesis. It should be in plain and simple words so that everyone can understand, what the research question is, and how it can be answered.
7. Availability of technique: The researcher must ensure that scientific methods are available for testing their proposed thesis under test in a research process. So, the researcher is required to have technical knowledge. The researcher should know what technical scientific methods are available for testing hypothesis so that he/she cannot arrive at a bad result, or he/she can get the good result after conducting his/her enquiry.
8. Testability: The researcher must ensure that scientific methods are available for testing proposed thesis.
9. Consistency: The hypothesis should be consistent with an existing body of theories, research findings and other hypothesis. So, it should not be totally diagonally opposed to what is the present situation. It should have some consistency from the present situation and what you have envisaged after completion of your research. It should correspond with the existing knowledge. So, it should not be diagonally opposed to the existing knowledge which is available after evaluation of the literature.

10. Purposiveness: The researcher must formulate only purposeful hypothesis. If you will undertake superfluous problems, problems which are having any real ground level difficulties then you will not be able to conduct the research because that will only be an imaginary work. So, the hypothesis should be purposeful so that your mission can be achieved and that can be answered after your research. Purposiveness refers to the relevance of hypothesis to the research problem and its objective. They should be having direct nexus with the purpose of the hypothesis.
11. Verifiability: A good hypothesis should be verifiable in practical terms.
12. Profundity of effect: A good hypothesis should have profound effect upon a variety of research variables. So, it should affect all the research variables which are available on that particular subject which is under study. If you have left one, two, or three, then, that may be problematic for you, and you will not be able to answer all the questions which you have in your research hypothesis.
13. Economical: It is important that the expenditure of resources should be controlled if the hypothesis underlying the research is good. It should strive to furnish an acceptable explanation of the phenomenon. If you have limited resources with you, maybe technical, or financial, or economical, in other words we can say if you don't have technical knowledge, technical support, you don't have money to support your research then you would not be able to conduct the good research and that way you should have controlled hypothesis so that you can complete your research within your limited resources, technical as well as economical.

When hypothesis is to be formulated?

A hypothesis is formulated after the problem has been stated and the literature study/review has been concluded. So, hypothesis should be formulated only when you have identified

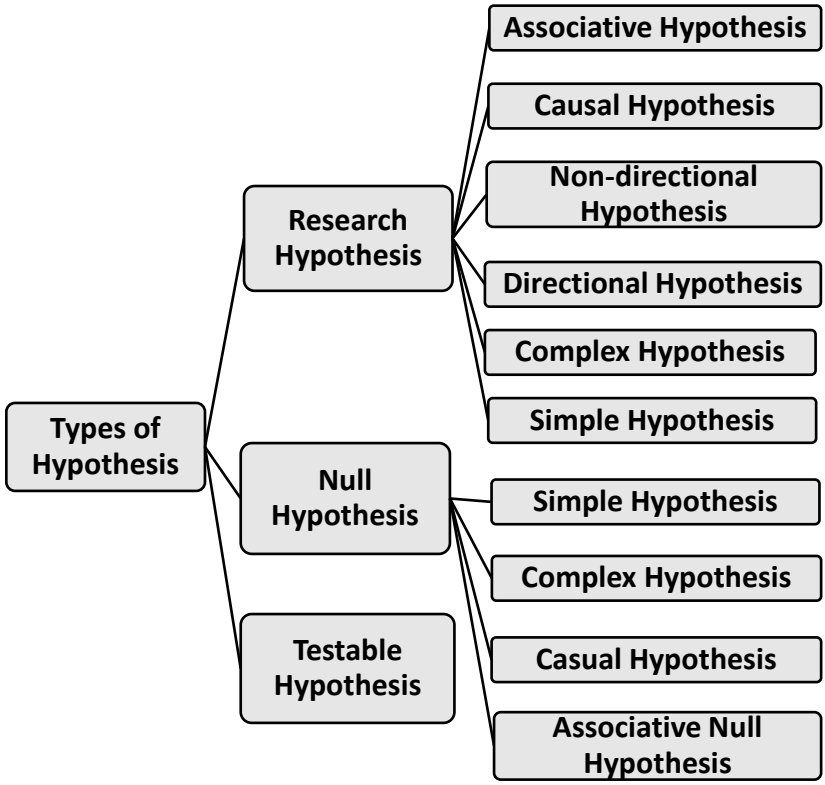
the problem and have formulated the problem. The identification and formulation of the problem will be possible only when you have completed the literature study or review of literature on the topic. Once you have completed review of literature on the subject, you will be able to identify the problem, and will be able to formulate your research problem.

Formulating research hypothesis:

It is formulated when the researcher is totally aware of the theoretical and empirical background of the problem. So, hypothesis should be formulated only when you are master of your subject, maybe on theoretical basis or on empirical basis. Because if you are to conduct study which is based on the empirical survey then you should formulate the questionnaires accordingly. And if your study relates to secondary data only, that is theoretical based, then you should formulate hypothesis accordingly. Unless you have complete knowledge on the theoretical background and practical background of the problem, you will not be able to formulate a best hypothesis and will not be able to answer them in correct manner through your research work.

Types of hypothesis:

Hypothesis plays a leading role in shaping the research work. So, we should know what the types of hypothesis are.



1. Research hypothesis:

a. **Simple hypothesis**: Simple hypothesis predicts that there exists a relationship between the independent variables and dependent variables. It explains that there is a relationship between variables which are subject matter of the discussion selected for the research problems.

b. **Complex hypothesis:** Complex hypothesis predicts that there exist relationship between two or more independent and dependent variable. First, we had only one independent variable and another dependent variable. If there are more than one, then complex hypothesis category will be there.

c. **Directional hypothesis:** It predicts the direction of the relationship between the Independent and dependent variable. It gives direction, what kind of relationship exist between the dependent and independent variable.
d. **Non directional hypothesis:** It predicts the relationship between the independent variable and dependent variable but does not express the direction of the relationship.
e. **Casual hypothesis:** Casual hypothesis predicts a cause and effect, the relationship or interaction between the independent variable and dependent variable. So, casual hypothesis is more relevant.
f. **De facto hypothesis:** It predicts effect between the independent and dependent variable so we can understand what the cause will be and what will be its effect, and how its relationship and interaction will be there. It also predicts the effect of independent variable on the dependent variable. For example, teacher student relationship influence student's learning. So, this is the perfect example of casual hypothesis. How the teacher student relationship is affected; Whether they are good or bad it all depends on the teacher to what extent he has influence over students through the learning techniques. To what extent he has been able to communicate his knowledge, transmit his knowledge, and to what extend he has been able to make the students learn what he or she has taught in the classroom. So, cause and effect: good teacher, good communication; bad teacher, bad communication; or casual teacher, casual communication. So, the relationship of teacher and student will depend on these factors.
g. **Associative hypothesis:** It predicts an associative relationship between the independent variable and the dependent variable. When there is a change in anyone of the variables change also occurs in the other variables. So, if you change one it affects the

other also. So, it is called associative (interrelated) relationship. The associative relationship between the independent and dependent variables may have either positive association or negative association. For example, if the teacher teaches in best manner, then, the relationship with students will be good; if the teacher is casual, then, the relationship with students will also be casual one; or if the teacher is not good, then, the relationship with students would be that of negative side.

2. **Null Hypothesis:** It is used only for statistical testing and statistical interpretation, data collection and giving interpretation of data. It predicts that there is no relationship between the independent variable and dependent variable, they are independent of each other. Independent variable is separate and dependent variable is separate, there is no relationship between them. Null hypothesis maybe a simple null hypothesis where independent variable does not even have any causal relationship with the dependent variable.

    a. **Complex null hypothesis:** In complex null hypothesis this relationship is of complex nature, that is somewhere it is related and somewhere it is not related, or they are intermixing with each other from time to time.
    b. **Casual null hypothesis:** Casual null hypothesis means that there is no relationship between variables.
    c. **Associative null hypothesis:** Associative null hypothesis does not affect independent variables and dependent variables relationship.

3. **Testable hypothesis:** Testable hypothesis predicts relationship between the independent variable and the dependent variable, and these variables are testable or measurable. So, if your hypothesis cannot be tested,

cannot be verified, then, your hypothesis will be of no use. It should predict the relationship between independent variable and dependent variable so that they can be measured, verified, tested, and can be explained to anyone.

Research variables:

Research variables are defined as qualities, properties, characteristics, behaviour, attitudes etc. of people, individual or group, objects, situations, activities etc. Variables are not so simple. It attributes the qualities of a person or individual or groups or objects or situations or activities, qualities, properties, characteristics, behaviour, and attributes of all these categories of persons, maybe individual maybe group, maybe with the object, maybe with the situation, or maybe relating to activities which are being conducted by them. So, you must analyse all the above categories of variables. What are the qualities of that person or individual? What are the properties that group have? What are the characteristic features of the individual or groups through which you are approaching for conducting the research? What type of behaviour is of them? Behavioural study should also be taken care of to enable researcher to know the attributes of them towards your research problem? Therefore, the variables are the basis for verifying the research, for completion of research, and to answer the research problem. Research hypothesis can be answered only in terms of variables. If you have selected good variable, then your hypothesis will be answered in a best way. Variables are manipulatable and measurable. Number of individuals you approach may change, individual may change, group may change, the objects may change, the situation may change, activities may change. That is why these variables are manipulatable, they can be manipulated means you can have more, you can have less, you can have multiple numbers, you can have single number, etc. and they should be measurable, whatever may be the number of them?

Types of research variables:

The research variables maybe independent variable, dependent variable, extraneous variable, environmental variable, and demographic variable. We will discuss all these one by one.

1. Independent variables: Independent variables are those whose quality or property can be manipulated by the research. It is also called experimental variable or treatment variable. So, independent variable means qualities and properties of that person.
2. Dependent variable: It is the quality or property or behaviour or the outcome that the researcher predicts that occurs in response to the manipulation, experimentation, or treatment of the independent variable. It is also called outcome variable. On the other hand, independent variable is also called incoming variable. As we have learning objectives and learning outcomes, so we also have outcome variable which we can call as dependent variable.
3. Extraneous variables: These are the variables which confuse and mix up the relationship between the variables and also interfere with the rational or casual relationship between the Independent and dependent variables. There are certain aspects which are confusing. When they are mixed with each other they cause confusion, and we call them as extraneous variables. The researcher makes an attempt to identify those extraneous variables before the research study is initiated and thereby the researcher can control the influence of extraneous variables on the research study through a specific research design or through statistical manipulation. So, there is a requirement of controlling the extraneous variable as there will be confusion, you will also be in utter confusing state while conducting the research, and in such as a situation you will not be able to complete your research work. It is, therefore, necessary for researcher to identify those extraneous variables at the beginning or at the initial stage and

should try to control so that these may not be incorporated in the research study otherwise he will not be able to complete his research work. So, research design should be formulated in such a way that these extraneous variables do not find a place in your research work.

4. Environmental variable: These are the variables which comprise of research setting where the research study is conducted. So, what is the environment there. Here the environment means not the outside environment but the environment where you are conducting the research, where you sit and work for conducting your research. These variables are climate, family background, social background, institutional setup, community setup, educational setup etc. In formulating the variables, what type of problems you will face while conducting the research, you have to keep in mind the climate, family background or keep the background of those persons who are your subject matter, what is their social background, where you are conducting the research, what is the institutional setup, what is the community setup, what is the educational setup of your subject matter of research. All these variables are required to be kept in mind, so that you may not find any problem while conducting the research. These variables are sometimes considered as external variable because sometimes family background does not permit, sometimes social background does not permit, sometimes educational setup does not permit, community setup does not permit you to undertake research. The researcher should always try to keep away these extraneous variables to minimize their effect on the research work.
5. Demographic variable: Demographic variables are the qualities or property or characteristic of the subject under the research study. These are collected to describe sample. So demographic qualities are also required to be taken into consideration of the persons who are the subject matter of your research, or who will be the

respondent, to whom you are going to conduct the research, to whom you are sending your research questionnaire, and how you will be able to get them, is required to be studied before framing your questionnaire. These variables are also called the sample characteristics. So, while collecting the sample this demographic variable is required to be taken into consideration, that is what are the quantities of the persons in the area, demography of the persons or the society, their property, their characteristics, and other features that are required to be taken care of while conducting the research.

Assumptions:

Assumptions are the statements of the basic principles or facts that are established and are universally expected as true on the basis of logic. So generally, we assume certain things. These assumptions should be based on some basic principles and those basic principles should be universally acceptable. Statements are universally acceptable only when they are based on the logic. So those assumptions which you have in your mind, if they are not based on the truth, not based on the logic then they cannot be said to be universally acceptable assumption and you will not be able to complete your research work based on such assumptions. These statements should be verifiable and should be proved as and when required in scientific manner so that you may not lag behind or you may not remain silent when a question is asked, and you may not be able to answer that question as it may be problematic to you. Assumption is picked up by the research from various sources. The sources are previous research studies, theories, clinical and field studies etc. So, assumptions can be drawn only when they are based on the previous research work, previous theories which are prevalent when you have started your research work, and if any survey has been conducted, empirical research has been conducted, clinical research has been conducted then they can also be a good source of your assumption. Second aspect you have to keep in mind is the limitation. Assuming that you

are free at one point of time you should not forget that you cannot complete all the things at one point of time and you may face time constraint in future. Limitations are the restrictions within a research study, which reduce the credibility or generalizability of the research finding. Therefore, limitations should be taken care of, and should be kept in mind that weather I will not be able to complete this work or not. So, these limitations you have to keep aside and at the end you will mention those limited issues which you could not resolve, and kept it open for further research to the research scholars. If you will not have proper limitations, then people may say that he has left out the limitations which he should have covered these issues. This may be problematic for you and will have tendency to reduce credibility of your work.

The Limitations of the research study is also called the weak points of the study as you have not covered those points, or you were not in a position to cover those points, or you have failed to cover those points. It is necessary to recognize the limitations of the research study which might influence the research result. So, you have to recognize the limitations and at the end you should devote one or two paragraphs to this effect, stating that these limitations which could not be covered, hopefully will be covered by futuristic researchers/ works. They will undertake research work on these limitations and will remove these difficulties and will go ahead.

Steps to hypothesis testing:

Testing of hypothesis is one of the most important steps while conducting the research. There are four steps to test the significance of hypothesis. First is formulation of hypothesis, second is set the level of significance, third is the data analysis, and fourth is the P value.

What is P value, and how to make a decision on the basis of P value: Here, P stands for probability and measures on how likely it is that any observed difference between the groups is due to chance. So, you must keep in mind the probability of the measures which are likely to affect your chance to analyse the

different variables or different groups which are subject matter of your research. It can be said to be the probability under the assumption of no effect or no defect. So, this probability sometimes, maybe covered under null hypothesis. Means there is no assumption or effect or no difference, so it is the null hypothesis; and you need not answer that. Obtaining a result equal to or more extreme than what was actually observed, so what you have observed, what result you have obtained, what you have reduced into writing, they do not give you answer which is required then it is part of no effect or no difference of assumption. A smaller P value means that there is strong evidence in favour of alternative hypothesis. So, if your presumption value is smaller, means presumption is smaller, then probability is smaller then you are more confident. So, if the probability value is more then you are less confident, both are inversely proportional to each other that is more the probability, less the confidence; less the probability, more the confidence. So, if the probability value is less than your evidence, it is in favour of you as you will be able to complete your research work.

Types of tests for hypothesis testing:

Interval estimation: In general terms, estimation uses a sample statistic as the basis for hypothesis testing. Estimation or probability both are more or less same thing, you are estimating, and you have probability, though both are more or less similar terms in many aspects. But they differ in many ways, they are complementary to each other in inferential processes, they support each other. Estimation and hypothesis testing support each other in arriving at a conclusion, to draw an inference to help you in drawing an inference and they will help you. As a matter of fact, being complementary to each other, both can be used by you for the hypothesis testing. A hypothesis test is used to determine whether or not a treatment has an effect. While estimation is used to determine how much effect. So, you can use/draw inference between these two. Hypothesis test is used to determine whether or not a treatment has an effect. So, when you are testing hypothesis, you can say whether your treatment

has any effect or not, whether your process has got result or not, and to what extent it has affected. But estimation says that how much effect has been there, whether you have arrived at a conclusion then it is the hypothesis testing. When you say that it is estimation only then you can say that 20% work has not been done, 70% work has been done, 100% we could not be achieved. So, confidence intervals and hypothesis test are similar in that they are both inferential method that rely on and approximated sampling distribution. They help in sample distribution in approximated way. While selecting the samples and distribution of samples these things are to be kept in mind, i.e., confidence, and the assumption. These things are required to be taken care of for conducting the research or testing the hypothesis. Confidence intervals use data from a sample to estimate a population parameter. So, confidence helps in proper selection of data and proper use of the data or proper samples which you have collected to arrive at the estimation of the situation. To what extent you will be able to answer your hypothesis that will be your estimation. But if you have confidently done that work by using the data then you will be able to answer 100%. Hypothesis testing can be done only through data collection and the sample which you have used for conducting the research. So, hypothesis testing requires that we have a hypothesized parameter. It is not so simple that we have hypothesis, it requires a hypothesized parameter, what parameters are to be taken care of while conducting the research and testing the hypothesis will be discussed now.

T-test: T-test in hypothesis testing is a statistical test that is used to compare the means of two groups. So, when you compare the statistical data collected by you then that is called T-test. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, whether two groups are different from each other. So, this type of T-test process is used when we compare the things, compare two groups, four groups, six groups with each other, keeping in view their interest, their properties, their other aspect like lifestyle and behaviour etc.

Therefore, when we compare them then we will be applying the T-test for testing the hypothesis.

Chi-square: Chi-square test is a non-parametric test used for two specific purposes. First is to test the hypothesis of no association between two or more groups, population, or criteria that is to check independence between two variables. As it is non-parametric, so if hypothesis is tested by this test, then, it can be proved that these two groups have no relationship between each other, they are independent of each other, these two variables are independent of each other and are not connected to each other. So they are not in association, there is no association between these two groups or two populations or two objects or two activities is called the chi-square.

The second category of this is to test how likely the observed distribution of data fits with the distribution that is the chi-square is commonly used for testing relationship categorically between variables. So, this second category may not be so non-parametric. It is applicable when the distribution of data can be fitted in to test the relationship between the categorical variables. In the first category we have discussed that there is no Association between these two, in second we can say that they have some relationship, but that relationship is of distant nature which can be checked through chi-square. The null hypothesis of the chi-square test is that no relationship exists on the categorical variables in the population, they are independent of each other. So, through chi-square if we fail to explain any kind of relationship between the variables then we can say that it is the null hypothesis, and through which we can say that there is no relationship between the categorical variables in the population and they are independent of each other, they are not interrelated or not interconnected with each other.

Types of errors in testing of hypothesis:

No method can be perfect and it is true with methods of hypothesis testing also. There are certain methods which are not complete within themselves, and leave some error or defects

in them. So, while conducting the research we generally commit two types of errors in hypothesis testing.

1. **Type I error (false-positive):** First type of error is false-positive. False-positive occurs when an investigator rejects a null hypothesis that is true in the population. So, if you think that these two persons or groups are independent of each other, so we need not discuss them, your assumption is false. In positive way we can say that they are interrelated, not intra related, independent of each other but your assumption is false. So, investigator could not reject it as a matter of right because that fall in the category of null hypothesis. Null hypothesis says that if there is no relationship then you should illustrate it, because these things are independent of each other, so they should be covered under null hypothesis, they should not be rejected. So generally, the first error is taken care of by most of the investigators and they say that we need not discuss them because there is no similarity by any stretch of imagination between the two variables.
2. **Type II error (false-negative):** Second type of error is false-negative. False negative occurs when the investigator fails to reject a null hypothesis that is actually false information. It is the negative aspect of the first that the investigator fails to reject a null hypothesis under the pretext that it is a null hypothesis. Variables are not interrelated or interconnected, or they are independent of each other than the investigators should consider this aspect in his work to dwell upon that, because they represent the falsification of the population area. They disprove, they prove false the relationship between the different variables. You might have left one or two or three persons who might have had different opinion, who might have similar opinions then that may give you a false assumption which may also work wrong. So, in the module of hypothesis testing for means and proportions, we have discussed hypothesis testing,

application with the dichotomous outcome variable in a single population. Therefore, we can say that, in a single population we can have different types of variables. In a single population, in a family we can talk of or in a single large family tree we can have dichotomous variable outcomes because son might have different opinions, daughters might have different opinions, daughter in law might have different opinion, father might have different opinion, mother might have different opinion so this type of variable is available in a single population area. We presented a test using a test statistics to test whether observed sample proportion differed significantly from my historical or external comparator. The chi-square goodness-to-fit test can also be used with a dichotomous form and results are mathematically equivalent. So, chi-square test can be said to be the good test for conducting the research and for testing the hypothesis particularly when it is related to statistical data and empirical survey.

The errors which I have explained in above paragraphs can also be explained in another way with example. In statistics a Type I error is a false positive conclusion, while a Type II error is a false negative conclusion. Making a statistical decision always involves uncertainties because statistical data are always uncertain. So, the risk of making these errors is unavoidable in hypothesis testing also. So, when the statistical decisions are based on uncertainties then these errors and risk of making errors is unavoidable. So, there are bound to be risk of errors while making the hypothesis because this method of testing hypothesis is based on statistical decisions which itself are based on the uncertain things. The probability of making a Type I error is the significance level or Alpha, while the probability of making a Type II level error is beta. This risk can be minimized by careful planning in your study design. For example, I have given here Type I versus Type II error, you decide to get tested for Covid-19 based on mind symptoms, there are two errors which would potentially occur. Type I the false positive, the test

result says that you have corona virus, but you are not. I give you the practical example that the corona test there was a point that if one has more than twenty-five points then he is corona infected, if it is less than twenty-five then he is not corona infected, or he will not be able to spread corona. But our Indian testing mechanism was set at 35 to 45, so, minimum shown in that test tube was 35. So, every person who went for covid testing it's shown that he is corona infected, and he was confined, he was put in isolation and the results were that huge number of people were declared corona infected. In fact, they were not so dangerous because they were not able to spread the corona to the others. Though their isolation was required but in home only and to keep them in hospital and giving them treatment was not required. So that was the false-positive stage when corona was tested. Second was that false-negative statement that results say that you don't have corona virus, but you actually have. So, these are the two examples, one example with two results, one doesn't have a corona virus and has been declared as, one has corona virus and has been declared as such. So, these difficulties will be there, but these can be minimized through careful planning and your research designing so that you can complete your research work in a befitting manner and within a specified period of time.

Conclusion:

To sum up, we can say that hypothesis is the heart of the research and through hypothesis we can arrive at a good conclusion if your hypothesis is properly formulated and has been formulated after identification and formulation of the research problem and after going through the review of the literature on the subject. So, if you have complete knowledge, theoretical as well practical knowledge then you will be able to formulate the hypothesis. The hypothesis should be in a present tense form, it should be in simple manner, it should not be complicated, and generally should be a single sentence, it should be in affirmative way, and should not have assumptions at all. Though assumptions cannot be avoided at all as you have to assume certain things because you are to analyse those

things and those analysis while be undertaken while conducting the research. So, the assumptions may prove true, may prove in positive side or may be in negative side that will depend on the result of your research. So, the result of the research will prove whether your assumptions were correct or wrong. The hypothesis formulated is good or not depends upon whether your hypothesis is verifiable or not. It can be verified by t-test and chi-square, but whatever may be the test they are available only for conducting the research on statistical data basis. So, if your research work is based on theory only then the process of testing of hypothesis may not be useful at all. It will be possible or useful only when you have undertaken empirical survey, conducted ground level research work and there are number of other variables, contacted not many persons while conducting the search, your research questions are required to be answered based on experimentation, then only these two types of testing methods are useful, otherwise in theoretical research these testing methods may not be of use. So, if you will keep all these things in your mind while identifying, and formulating the research problem, and you have gone through the review of literature in detail you will be able to formulate the hypothesis in best manner and you will be able to complete your research work in a befitting manner.

QUALITATIVE AND QUANTITATIVE RESEARCH

Prof. (Dr.) A.P. Singh*

Introduction

What is research, exactly? Research is a matter of skill. It is not something that one can learn by simply reading books. It is something like driving or swimming. For example, someone may be given a book titled 'Theories of Swimming' and asked to read it from cover to cover. Once they are done reading, if they are asked to jump into the swimming pool, they would be scratching their head! Because swimming is something that has got to be practised. It cannot be learnt by reading books. The same is true for the process of research. Research is something that requires consistent building up of skills, not one skill but a set of skills. Research needs to be practised and evolved slowly. It does not happen overnight

Language is also equally a matter of skill. One needs around a dozen skills to master a language. Speaking a language that is understandable by anyone is a skill. Understanding somebody else by listening is a skill. So, if somebody who has been exposed to Indian English alone is made to watch a Hollywood movie, he would barely understand anything because he has not actually practised that kind of a language at all though the same English is used there as well. And so is the case with writing and speaking, writing, learning by listening, learning by reading and so on and so forth. Any one of these skills if one does not cultivate, they will forget. Therefore, it so happens when lot of people who know good English cannot speak properly because they have not practised that.

* University School of Law and Legal Studies, GGS IP University, Dwarka, New Delhi

Meaning of Research

Research is the identification or concretization of an idea in the mind. For example, in a lot of Hindi films, there are scenes where the hero would be writing a poem in praise of his beloved. And he would write something, and then tear that page and throw it out and once again start writing. So, what he is doing is writing something and, then, realising that it is not exactly what he wanted to write. So, he is trying to discover the personality of an idea. And sometimes, after a lot of efforts, he is able to write down a poem or some other piece of writing and then he heaves a sigh of relief saying, "Oh, this is what I really wanted to do." So, research is the concretization of an idea in the mind, discovering the personality of an idea.

On the screen of our minds, hundreds of ideas are passing through every single second. How one captures that idea and puts it on paper is what research is all about. Research does not happen out of the blue. The idea one has about the subject they are learning has to be put in a very specific format which can be called the personality of the idea. For example, suppose someone is standing in a semi-dark area and watching somebody coming from the darker side. He might think that the person is his friend, Harish, because of the silhouette or the way he walks. However, upon closer inspection, he realises that he is in fact his friend Ramesh.

One's mind tries to fill in the gaps that they have- an answer to if it is Harish or Ramesh. Research is similarly, a vague idea to begin with and then efforts to discover its personality by reading the subject, discussing things and more.

Qualitative and Quantitative Research

Let's look at these two technologies to technics, which are a lot many times just complementary. Just for our purposes, they can be classified into qualitative or quantitative research.

Law is classified in a variety of ways: Private Law and Public Law, Procedural Law and Substantive Law, Civil Law and Criminal Law. Similarly, methodologies of research are also

named and classified across disciplines differently. This chapter shall be about qualitative and quantitative research absolutely from the legal perspective.

Methodologies are understood in a variety of ways. For example- Qualitative, Doctrinal, Theoretical, Library-based, Problem-based, Policy, Law Reform based. They might appear to be different genres of research when in fact, they are complementary to each other. Sometimes all these things may become part of the same research process. So, one can start with qualitative research and then because they start doing things that involve certain doctrines, the research can be termed doctrinal. One single research could have so many elements.

Ultimately, what is the purpose of the research process? For the purpose of arriving at some conclusions.

Quantitative research is all about numbers, statistics, quantities. This is about the way one looks at a certain empirical idea and then tries to prove that with numbers that they collect.

Qualitative research, on the contrary, is about the nature of things that need to be investigated. They are words rather than numbers. So, one talks about things, discusses them, describes phenomena and explains ideas for the purpose of convincing another with an innovative argument. So, qualitative research attempts to develop a theory; to provide some useful understanding of a phenomenon.

Quantitative research, in large part, refers to the adoption of methods of natural science. Quantitative methods are closer to natural sciences than social sciences, behavioural sciences and legal sciences whereas social sciences, behavioural sciences and legal sciences are closer to qualitative research.

Quantitative research is always a measurement of any kind of phenomenon. For example, how much precipitation happens in Northeast India or how much precipitation the state of Meghalaya received ten years back is a quantitative

measurement of a phenomenon. It could be because of climate change or some other thing.

This quantitative research is part of the positivistic moment because it was in the late 19th century that talk about positivistic tendencies in social sciences started and an attempt at explaining social phenomenon the way natural phenomenon is explained is made. This kind of systems theory made its way into the learning process during the 1920s. First, they were used in Botany and then in Social Sciences- Sociology, Anthropology, Political Science and so forth. Then the behavioural movement in the 1950s and 60s in various sciences started.

Hence, qualitative research, broadly speaking, is doctrinal and theoretical research that is qualitative in nature and seeks to elaborate or develop a theory to provide a more useful understanding of a phenomenon. Law, after all, is something which is reasoned and not found and qualitative research is something that helps reason out the law.

The purpose of law is not only finding the correct law and relevant case material for the purpose of using it for further dispute situations but making an authentic statement of the law which can be verified. This is the purpose of qualitative research— finding correct law and relevant case material on the subject and making an authentic statement that is verifiable.

But it is not simply discovering material or collecting material, it is also about putting it hierarchically in terms of its authority. Lawyers and judges are trained in this kind of research.

Formulation or identification of a problem is the first step in all kinds of research. However, qualitative research has formulation or identification of a problem and then identification of relevant legislation.

Then, it has a literature review which is always crucial. For the purpose of the literature review, one looks for correct material in journals articles, textbooks, etc. A proposition of law which is

supported by primary authority is prepared and to further authenticate it, secondary material is searched for. Now, the way Halsbury's Law from England is written, they have a very specific way of doing it. A proposition of the law is made and it is supported by a primary authority and then a case law follows. There are a lot of such examples in popular legal literature. For example, in A Lawyers' Jurisprudence, which is a primary textbook, they first introduce a particular theory and then put together relevant readings from a variety of sources on the same subject for the purpose of supporting the theory. The book Environmental Law by Armin Rosencranz also has a similar pattern.

This is one way of doing research where one tries to figure out the proposition of the law and then support it with primary or secondary material, in the sense that it is placed in a hierarchy depending on the proposition of the law.

AIR research is something that I found very useful, maybe because I could not master the SCC technology. AIR and SCR were the earliest materials law students were exposed to. AIR and SCR technologies are easier for me to handle because of the headnotes. One can quickly figure out the issue and then go to the relevant paragraph. But SCC has a different kind of technology which I am not much of an expert in. If I am asked to do research on AIR it is easy for me. SCR is equally easy for me because these are materials we as law students have been using for the last three decades or so to learn.

Earlier, we used to look at the status of the case. For example, the Kesavananda Bharati case was in 1973. So, to find out the status of a particular issue that was decided in Kesavananda Bharati's case, you had to look at cross-references which used to be part of the earlier additions of hard copy ARS.

But the idea is that in qualitative research, some of the journals are also providing some legal literature I had referred to. Finding the legislation, its currency and judicial considerations is a very important category.

My practice has always been that once I have read a bit of literature and have figured out the problem, I identify research questions properly and I put those research questions on sheets of paper. And then on that sheet of paper, I keep writing what literature is relevant in that particular context. This way I prepare my chapterization. Therefore, selecting research questions is a very important activity that needs to be appreciated and understood. It requires a lot of expertise on the subject.

In qualitative research, researchers need to understand that avoiding bias is a very important issue. There is a lot of literature on the subject during the 1960s as to how in qualitative research, bias needs to be avoided because traditionally qualitative research is influenced by the values and opinions of the researcher. There is a lot of literature on the subject, particularly during the Behavioural Movement in Social Sciences in the 1960s.

Review of documents and synthesis of results is the next step after having read everything and putting it hierarchically. The authorities are then summarised and the overall principles derived from the survey of literature are acknowledged - this is the way qualitative research proceeds.

We are still in the grip of positivistic movement. There are a lot of elements that one can discover- sociological elements, historical elements and so on and so forth, but positivistic tendencies in the Indian legal system are more prominent than any other tendency. In fact, Gopalan is not over; it is still there and it keeps haunting the Indian legal mindsets.

Because of the positive tendencies of the legal system, quantitative research is more popular than qualitative and theoretical research. Although a lot of theoretical research is done, the sanctity associated with it is missing.

Quantitative research is largely objective which means that the researcher's role in quantitative research is comparatively neutral. That is not the case with qualitative research. This is

because the conclusions that the quantitative researcher would draw would be based on hard numbers, statistics, and data, so there is nothing that he can influence. So, even if he is biased towards a certain conclusion, the next researcher can always prove him wrong. Therefore, nurturing biases in quantitative research is comparatively a tougher task.

FINER is an acronym that can be used for the purpose of listing qualities that quantitative research needs to have. Every letter stands for one quality of quantitative research: Feasible, Interesting, Novel, Ethical and Relevant. Even quantitative research needs to pass through a test of qualitative character. So, if quantitative research is not feasible, interesting, novel, ethical or relevant, it makes no sense.

Ben Johnson, an English poet, said that he had six masters who taught him everything in life- what, when, who, where, which and how. These are the expressions one uses for formulating research questions. These expressions are questions that require descriptive answers. Therefore, it is very difficult to talk about them in watertight compartments.

The questions, like why, seek understanding and explanation rather than descriptive answers. Research questions have to be very specific and answerable, and articulating research questions is one of the core activities of the researcher. One core activity is hypothesis construction. The second, most difficult and important task, is articulating research questions. Therefore, some books state that both things are equally important and equally difficult core areas of a research process. Some say a hypothesis is not necessary if research questions are present in the research. However, both are important and one should not be dispensed with, for the purpose of the other.

There are more difficulties in hypothesis but research questions are more sensitive and require a lot of understanding. In all kinds of research processes, the researcher will have to transition from general to specific. Though it is difficult, it is necessary. So, if one is talking about the regional environmental

problems in the state of Assam, one must first try to articulate it from a larger perspective- general climate change happening and an Indian context. Then, they must come up with both a problem and a solution with regard to the state of Assam. So, what they are doing is transiting from general to specific. This is obviously a simpler example to make it quickly appreciable, but that transition from general to specific in quantitative research is not that simple.

Quantitative research studies and collects data to test or verify a theory and their results will confirm or deny what has been discovered, thereby advancing a theory or some knowledge. Now, this might appear to be some kind of qualitative statement, but quantitative research also does the same thing - verifies a theory and its result by way of number of course. Therefore, in real-time research, it is very difficult to keep qualitative and quantitative research separate, they might converse in the same area.

Now, coming back to something very simple from the point of view of a student or a researcher. In quantitative research, formulating a problem is more difficult than solving it. This might appear to be a very simple statement but it is true. This is because the formulation of a research problem is more of a thinking process. One reads things and then starts thinking about it.

A lot many times, one may feel jittery since no ideas are getting crystallised. Once a question is formulated and articulated properly, it is half of an answer.

One typically has several things in their mind at the same time but progressive elimination of the irrelevant and specification of the relevant is what discovering the personality of an idea really means. If a researcher tells me that he is facing a lot of confusion, to begin with, I always congratulate him because half his research is done since the confusion that happens in the beginning is actually the onset of the research process. If that

confusion is not there, the research process will not start. So, it is a creative confusion.

But for that creative confusion, a progressive elimination of the irrelevant has to happen so that the relevant can be specified. How does that happen? The student needs to start putting things on paper. When one starts putting things on paper, things start getting specific and they start eliminating things. First comes confusion and then elimination of the irrelevant and consequently elimination of the confusion.

Now, there is no similarity in social and research problems. One is cognitive and the other is a matter of evaluation. A law-abiding citizen is not a social problem. It is a boon for a society to have law-abiding citizens, but it could be a research problem. It has got to be identified and articulated properly to be a research problem. So, never equate a social problem with a research problem.

Now, how does one pick up the research areas in quantitative research? It depends on their interest and curiosities. One may want to verify a particular fact or a theory sometimes. There could be a social need or maybe some pragmatic purpose.

I recall a very interesting incident. A female student once came to me saying she would like to research divorce. I told her I was a public law teacher and not a personal law teacher but she insisted. And then I understood that she was looking at divorce, not from a personal law standpoint, but from the point of view of figuring out a public law remedy for that. The moment I discovered that, I consented to guiding her in doing this research and it turned out to be very good research and there is a book written on it now. Hence, a problem might appear to be very simple and funny to begin with but do not rule it out. Just look at it from a researcher's standpoint.

Research Design

A research design is a very important step. A research design is a conceptual model. It is a logical and systematic plan for

directing research efforts. All kinds of ideas and theories are very vague to begin with and therefore, until one has a research design one will be aiming in the dark. It takes quite a bit of time in articulating and concretizing the research problem. It involves objectives, methodology and techniques that they shall be using. This is basically a blueprint for the collection, measurement and analysis of data and is an attempt to avoid deviations of all kinds. It is therefore a guidepost to keep oneself headed in one direction. All plans in terms of research work are vague and tentative and therefore design is an important category needed.

Designing the hypothesis is something which is one of the most difficult processes. So, what exactly are these tentative generalizations that one calls the hypothesis? It is an educated hunch or guesswork.

If someone intends to travel from Delhi to Guwahati, they have a tentative idea as to how much money it would require. If they are sightseeing, they would prefer a train journey. If it is a business trip where they need to save time and they have a higher budget, they can travel by flight. So, tentative generalizations are there. One can always work out how much time it shall take, how much money it shall take but the flight might get delayed or take too long for whatever reason. So, it is an educated hunch or a guesswork about the research path.

But it is not pure guesswork. It is educated guesswork. Generally, it happens that the earlier research done becomes the hypothesis for the next researcher to experiment on the subject. It is always subjected to verification and confirmation by way of data collected. The hypothesis is equally something that establishes the direction of the study. There are a variety of methods of writing a hypothesis.

Survey of Literature

Quantitative research is a survey of literature. In fact, the moment a student comes back to his guide in every university for that purpose. A student gets registered then he is supposed

to undergo some kind of coursework now, when a student is doing coursework then, and a research supervisors allowed to him. It is at that point of time that he will have to start collecting the material for reading because reading becomes very difficult later. Then you are hurrying up for doing something for sometimes collecting, visiting a field, writing a report and you know getting it verified, the processing of that or meeting your supervisor and so on and so forth. So, it is at the time of doing your coursework that you prepare a list of literature and start doing the survey of literature. Because that is the time, when these serious reading can be done, obviously you will have to classify your data into primary and secondary sources like for example, statutes and case materials are primary sources for a law student and the commentaries and the reports are secondary sources.

If one is working on child delinquency, then there are many things one must need to look into. Apart from primary and secondary literature, one must visit the field, remand homes, juvenile centres, courts, the family of the delinquent child, the locality in which they are residing etc. So, the researcher immersing themselves in the subject is an important category. With the help of a guide, one has to decide to what they have to do.

Now, Westlaw, Hein Online and several other databases are basically all western journals. Reading Western journals and then looking at Indian problems does not work well since Western models get superimposed on Indian models and the results do not give the correct picture.

Even if one is referring to Western journals, there is no problem in it but they also have to immerse themselves in the problem at the local level, then one can equate it and find that there are cultural issues and cultural differences - cultural relativism. So, the researcher has to be aware of this since it is very important in quantitative research.

Surveys can be comprehensive and sample-based. Comprehensive surveys are not done generally, but samples and universal studies need to be identified very clearly. This is an important category; samples and universal studies need to be identified very clearly to begin with.

Tools in terms of several schedules and questionnaires can be either structured or unstructured. There could be observation methods but one has to identify these technologies and techniques since they are not tangible things. A lot of thinking has to be done for the purpose of questionnaires after the researcher immerses themselves in the subject. So, one never knows what kind of tools will fit in that category if they are confronting a semi-literate or illiterate population.

The observation method and open-ended questionnaires are something that might help researchers. It cannot be explained in advance as to what kind of methodology will work. Unless one has identified the problem and has exposed themselves to the idea, they simply cannot decide the tools and technologies. There are two basic types of data collection methods- survey questionnaires which are self-administered and interviewer-administered.

This is about closed questionnaires. So, when one is posting a questionnaire online or sending questions through posts, these are self-administered questionnaires. Then there could be interviewer-administered questionnaires in the sense that when one is interviewing a certain person by way of open-ended or closed-ended questionnaires. It is structured. Face-to-face interviews or telephone service are done by way of unstructured questions though structured questions can also be there.

Secondary data is not a bad idea. It is not always that one can figure out and the survey, the whole of the country, for the purpose of finding the trends of criminality in different sections of the society and different areas of human life. Sometimes, these data are readily available. So, there may be old data, and you can look at that old data with a new idea on it, right? So,

the researcher knows generally how this data gets corrected and all that. So, there are three major sources of secondary data – surveys, official statistics, and official records.

Now, say for example National Crime Records Bureau (NCRB) data for criminal law students is easily accessible and publicly available. So, for example, considering the national average, dowry deaths in the northern part of the country are more than southern parts of the country. One can just look at NCRB data and supplant it with their personal surveys. Secondary data is also very important. Ministries also sometimes display data like official reports and official records. All these things are secondary data, and one must appreciate and understand its importance as well.

They can always be downloaded for further analysis and the advantage is the time saved in data collection and the fact that one may find material which is rarely available.

One of my students was doing research on Kashmir so I sent him to the Hari Singh Library in Jammu where he was supposed to look into a lot of things. He said to me that there was some data and some surveys that were done during the 60s and 70s when Mrs. Gandhi concluded an agreement with Sheikh Abdullah. But he could not get it because of a lack of cooperation. I told him he should leave it but he persisted and figured out some very novel methods to draw that data. He threatened to file a public information RTI application if he did not get the data since it was a public library. The threat worked and the utility of that data was that based on that data, we had to change our methodology of doing research.

The point that I am trying to make is that sometimes you might find that secondary data is not relevant but the idea that they have covered might affect your current understanding. So, the utility of that old data, the secondary data, is sometimes very crucial. There are certain disadvantages as well because you never know unless you have done a lot of study in that area. Fortunately, this student who was working on the Kashmir

issue had read all kinds of books from the 1950s to 2022. He had read almost every single book that was written on Kashmir by all kinds of people. So, he had a lot of ideas and so he could interpret it. But sometimes it happens that you are not aware as to what kind of objective the researcher had when he interpreted that data and what kind of an objective you have. Sometimes it might confuse you- this is a disadvantage. Therefore, understanding the perspective of the original researchers sometimes becomes very difficult. So, this is a disadvantage.

Ethical Questions

There are a lot of ethical questions that, particularly in quantitative research, one has to understand and confront.

Involving people without their consent or knowledge is an unethical thing. One must explain it to the people involved. It might be very difficult. For example, a student of mine was doing research on West Pak refugees, in some colonies in Jammu and Akhnoor and the people there refused to answer his questions. He made a telephone call to me detailing his problem and asking what should be done. He suggested that he could wear clothes like them but I shot that idea down. Involving people in the research process without their consent is unethical. It might appear to be a very simple idea - deceiving people - but it never helps. Deceiving participants intentionally is one of the crimes that can be done in the research process. For any kind of information that the researcher has, they must have had the participation of the subject in the research process willingly. If one does not have participation willingly, they will not get proper results. Therefore, honesty is the best policy. If one is involving them by way of deceit, it might end up emotionally or psychologically harming them which is an offence by any standard.

Professional social science bodies, particularly in the legal field, criminology associations have their own codes of conduct. Processing, analysing and interpreting data is another thing that is equally problematic but nowadays a lot of online help is

available. Even Google has certain instruments whereby one can put in data and present data using several methodologies.

But raw data is just a collection of information. It is in no way research material. Unless data is properly processed, classified, coded and tabulated, one cannot draw common conclusions from it. So, the collection of data is not simply relevant research material. One has to properly classify, code and tabulate that data and then draw some kind of conclusions out of it. There are lot of concise legal formats available on Google and several graphical ways of presenting data.

Report writing is the end product of research activity. This is an account of a long journey on the path of discovering knowledge. It not only involves skill, but effort, patience, penetration of the subject and persistence. Some people say that if one has three years of research, six months to one year are spent on coursework, then you can divide half of the time in fieldwork and have them in report writing.

There is no cut-short formula for that because the writing process in qualitative research might leave the researcher in a soup because one never knows how theoretical issues get solved. Therefore, just by way of guidance, it can be resolved.

Report writing not only resolves the problem at hand but also identifies further areas of research whereby new hypothesis can be worked out. And there are obviously suggestions, observations and recommendations which one can put separately.

So, how does one conclude things from common data and then put it in their recommendations, observations, suggestions etc. and test their hypothesis? These are slightly technical issues that one can always appreciate and understand from experienced researchers. So obviously, the researcher's guide is a reference point. Sometimes it might happen that the guide does not have exposure to the area in which the researcher is doing research. However, that generally does not happen because the guide does not accept a student unless he is

perfectly familiar with the area in which he is doing the research. However, within a given area, there could be very technical things that the guide may not know. So, the guides in such cases, since they are more resourceful than students can always suggest that they sit together and invite somebody else to brainstorm. This is for the purpose of putting everything in a proper format; to disseminate knowledge.

For report writing, a detailed format must be appreciated which is very common these days across the spectrum. There may be a few changes here and there, and there are experimentations in every institution but generally, in legal research across the country, the ILI standard of writing footnotes is followed.

So, a brief look at the report writing process. There is an introductory page with the title and institutional affiliations. Then comes the contents, preface, acknowledgement, abbreviations, and list of cases. These are the things that are there before the first chapter. There are some dozen items that one has to adjust. So, the main body of the research starts with the introductory chapter in which one has to write things like the problem statement, review of literature, define the object, and then design questions, hypothesis and methodology and then provide a brief outline, chapterization and then the other chapter, which is exploration and explanation, research findings, conclusion, suggestions. So, these are the ways in which one can put the whole thing together in the format. And towards the end of the research work, there are several things-bibliography which could be books, journals, articles, list of instruments, national, international websites, appendices, and annexures. There can be a hundred things that one has to put in towards the end of research work. And then obviously the other important category to take note of is footnoting styles. In legal research, the ILI system is generally followed.

Conclusion

In conclusion, one single research methodology is seldom applied in the research process. It is always a combination of types of research methodologies and sometimes all research

methodologies may apply at the same time for a single research project.

The ultimate purpose of research methodologies is to arrive at some reasonable conclusions. Though it can be done without following a research method but when a certain method is followed, the conclusions are reasonable and properly arrived at. The researcher does not jump to conclusions but rather arrives at them reasonably and logically which develops a better understanding of the phenomenon. Sometimes a new theory is created, a new solution or a new law reform is generated and it is a new learning. So, every time research is done, it is a new learning. The research process is a very tedious task but once the researcher immerses himself in the research process, it is also a very satisfying task.

Even today, I spend a lot of time figuring out an idea and if I manage to write an article, the amount of satisfaction it gives me is tremendous. These days, after three decades in academics, I probably do not need those publications for the purpose of promotions and all that but nevertheless, when I do good research and then develop and present a proper research paper, it gives me a lot of satisfaction. Therefore, doing serious research keeps you occupied philosophically.

RESEARCH AND ETHICS

Prof. (Dr.) Chidananda Reddy S. Patil*

Introduction

One needs to understand that the credibility of research is dependent upon various factors, and as researcher, one has to leave a mark. Everyone has to contribute by generating knowledge, and by doing any casual work, one should not become an object to be criticized or cajoled at. Values are essential in order for the research to be credible intellectual work, and one has to develop appropriate traits, and developing these appropriate traits will free us from undue influence. One should be sincere in one's research and has to strictly adhere to ethical norms, ethical principles.

Ethics: Meaning

What is ethics, and ethics vis-a-vis research? Ethics encompasses core values, like objectivity and it is a requirement of ethics that, as a researcher, one should be objective and value neutrality. One should be neutral and not put through convictions, prescriptions and should strive towards originality.

Ethics, as contemplated by the University Grants Commission, which is applicable on everyone, must be adhered to. That is not an ordinary and simple task to be an earnest researcher and a researcher worth the name. Let us start with objectivity. Why research? What is research? Research is the pursuit of truth, which is very central to research and the quality of research. When a researcher starts his research objectively, he is proceeding relying on reality, and he should not be acting on imaginary views or personal likes and dislikes. One should be totally objective and not bring personal prejudices into the research work.

* Karnataka State Law University, Hubballi

Objectivity

What is objectivity? Objectivity is describing an object as it is, and not what one think it to be or what one think it is. As looked from the eyes of everyone, that is the truth to be presented, and truth should not be distorted by partition or biased approaches, preconceptions, value judgments, or any emotional stance. So, a detachment should be there. The researcher, as a person, is different. As a researcher, one should be objective. The celebrated writer, Joseph Raj, treats objectivity as impartiality. One should be impartial as a researcher, and what is impartiality? People are said to be impartial if and only if, in matters affecting others, as well as themselves, they act on relevant reasons and reject or shun irrelevant reasons. One should act on relevant reasons, and in particular, should shun irrelevant considerations that favour oneself or people or causes dear to one's own heart.

So, one should be totally objective. A writer in research methods named Brien Leiter says, "The demand to be objective is the demand to be free from bias, or other extraneous factors that distort my judgment" as a researcher. One should prevent the things that will interfere with one's decision-making, data assessment, and arriving at conclusions. The cognitive process makes one believe that this belief should be sustainable through a scientific approach; when one adopts appropriate research methodology and go through various steps of reflective thinking, that belief should be sustained, driving away false ideas. That is the imperative of objectivity.

The important thing is that man is a very credulous animal. He wants to believe. If he does not have reasonable grounds to believe, he will be satisfied with available grounds, even the insufficient grounds to believe; but one should not be satisfied with insufficient grounds for believing anything. One should be very rational and objective in scrutinizing, and only on a rational basis using his cognitive processes one should be in a position to accept and verify that belief. A great jurist, Nani Palkhivala, has made an observation relevant to every researcher. As a researcher in law, what one need is clarity of thought, which will

enable to eliminate the wrong ideas, however attractive they may be presented. There are well-dressed foolish ideas which need to be questioned. Whether the idea is wise or foolish? It is surprising how foolish the well-dressed idea is. One should not be carried away by the way it is presented. It is essential to look behind and ascertain what is there at the back? Ashutosh Mukherjee says, "Judge and examine yourself every question that comes before you, with care and thoroughness.... Satisfy not yourselves with convenient or comfortable doctrines merely because they appeal to your feelings or imagination and are propounded with an air of authority and dogmatism. Sternly examine them and accept them only when they stand the test of truth and reason. But at the same time, be tolerant of the opinions of others, and be charitable in your interpretation of their motives and actions; for remember that the true independence of character is perfectly consistent with a feeling of reverence where reverence is justly due." Don't accept it because it has come from so and so in an authoritative form. A researcher will sternly examine these principles, doctrines, whatever they are propagated, and accept them only when they are in a position to stand the test of truth and reason. If they are rational, if they are true, then accept them, but at the same time, the researcher will be tolerant of the opinions of others and be charitable in interpreting their motives and actions. Giving true independence of character is perfectly consistent with the feeling of reverence for other researchers.

Francis Baken observes that a true scientist should possess both 'compassion and understanding since knowledge without charity could bite with the deadliness of a serpent's venom.' The researcher is a scientist, and we are social scientists. The researcher should have an element of charity in his project because without being charitable, the research may do more harm than benefit to society. That is why one should be objective, but when one is living in this society, with the people, with one's own experience, strict objectivity may not be possible, that is why one should strive to attain that minimum standard of objectivity that is demanded in the research. It is essential to apply mind here. One should verify the truthfulness of the

proposition that one is considering and should not be carried away by the views of others, by the wind of the opinion of others. This requires a researcher to stand above personal factors. As a person, one is different, as a researcher, and should not be influenced by mundane factors or by communitarian prejudice or caste prejudices. This is what is required of a researcher. In natural science, objectivity is a product of the laboratory, but in the field of social science, knowledge is not and nor can it be impersonal. Objectivity cannot be on par with the pure sciences in the area of social sciences. In social sciences, knowledge of facts has strong elements of the subjectivity of the enquirer. As an enquirer and a researcher, how one perceives there is an element of subjectivity involved in social sciences. The conscious or unconscious political philosophy, economic ideology, caste factors, social attitude, all these things will try to intrude and deflect.

Ideologies

There are relatable ideologies, a plethora of ideologies, such as democracy, communism, capitalism, socialism, totalitarianism, etc. There are tenets of cultural assimilation and pluralism. Okay. So, when there is a melee of all these things, the researchers should propose different ideas and actions. An approach of adhering to the particular ideology, as if it is the ultimate truth, and analysing the domain of facts through that coloured perception will conceal the truth. Any ideology or conviction should not move me because I'm not in a position to arrive at the truth. When there is a marketplace of ideas when innumerable alternatives are possible, researchers should approach with an open mind and comparatively evaluate the ideas that are available in the marketplace, evaluate them, and then arrive at their own conclusions. The challenge is how one can be outside the pressures and pulls of the social factors when he is well within the same society. Maintaining that is a very difficult proposition, and this objectivity can be cultivated only by long practice and meticulously cultivated mental discipline. One should be in a position to keep these things separate and objectively conduct my research. In the words of Amartya Sen,

"The subject matter of an objective assessment can well be the way an object appears from a specified position of observation. What is observed can vary from position to position, but different people conduct the respective observations from similar positions and make much the same observations." Facts remain facts, and external observers assessing those facts from a standpoint will arrive at the same conclusion as the other person observing that phenomenon from the same position has observed.

Law and Morality

When it comes to the point of law, there is a substantial nexus between law and morality. Law, as a behavioural norm, as a norm that is evolved for the purpose of regulating the conduct of individuals, is embedded in morality and in consideration of good governance, security, and welfare. For determination of laws' intrinsic worth on truthful facts relating to their supporting domain calls for an objective enquiry, and such inquiry should be neutral to values but cannot be free from the major premise of these purposes. The relevance of objectivity to law and morality has attracted discourse on the concept of value neutrality. It should be objective, and law, as a behavioural norm, has a strong nexus with morality and the principles of good governance, security, the welfare of the state, peaceful coexistence, and all these things. All these things are value loaded and one should be objective in the world of values, maintaining what is known as value neutrality. Ethically, one is required to be value-neutral.

Ancient Indian thoughts have made it clear that knowledge should promote the cause of moral perfection, general well-being, and happiness. That is the purpose of research in Social Sciences. General well-being, both for Social Sciences and also Pure Sciences. Hence, one conducts research to better the quality of life and to arrive at moral perfection, general well-being and enhance the happiness of the people. What is ethically good is also epistemologically good, and trading a bit from one for another is not advisable for a researcher.

Values

The Researcher has an obligation to be free from the super-imposing thrust of values. Researcher should be value neutral, but whether one likes it or not, India has a tradition of values interwoven in the national fabric. Values are interwoven in our national fabric, in our way of life, in our institutions, everywhere, even in the education system. The S. B. Chavan Committee on Education Curriculum has made some observations about values. The committee says, "India has a tradition of values interwoven into the national fabric. Values are principles which are consistent and universal, which direct our actions and activities. The curriculum should be value-loaded. They are virtues in an individual. If these values deteriorate, it will hasten or accelerate the breakdown of family, society and nation as a whole." This is the observation. Hence, if values deteriorate, it will accelerate the breakdown of family, society, and the nation as a whole.

In the same direction, Max Weber has made some observations.

> *"As social science research is motivated by values, and it is not value-free, the researcher has the primary obligation of conducting his research in such a way that values do not dictate the outcome of the research."*

Social science research is motivated by values. It is not value-free. However, the researcher should not allow himself to be dictated, as far as research outcome is concerned by values. So, when one says that the researcher has a primary obligation to conduct one's research in such a way that values do not dictate the outcome of research, this is the notion of value neutrality. This is the notion of value neutrality, and to attain this value neutrality, according to Max Weber, the researcher has to use such methods, mechanisms, and tools which one will use to collect and analyse data that avoid projection of the value. In order to avoid values creeping into the research outcome, it is essential to design the research method and mechanism and use appropriate tools for the collection and analysis of data.

Max Weber says, "Value neutrality is an ideal, which is difficult to achieve. It ought to be a benchmark for intellectual discourse. In the case of a researcher, when the researcher ventures to different values, he or she should be on strong footing. One should strongly defend its method and establish that this value is inevitable and this is to be accepted, and the researcher who wants to favour a class of people- maybe depressed, maybe marginalized, maybe women, children, whatever- those researchers will have the burden of defending their position on the strong ethical base, connected with remedying the exploitative conditions that are prevalent in this society. Suppose someone wants to stand for depressed, downtrodden women. In that case they should have a strong footing along with an agenda of ameliorating, and remedying those exploitative conditions prevailing in the society, that will serve the purpose of research ethically. There are some factors that will distort the objectivity and neutrality of a researcher.

They are factors like religion, racial prejudices, linguistic chauvinism, regional considerations, gender bias, love towards one's own community, nation, class, anger against past exploitation, and caste affinity. These are all the factors that distort objectivity and neutrality. These strong feelings will push the researcher to uphold some propositions or denigrate others.

The researcher is expected to traverse the path of objectivity. One has to distance himself from these personal, emotional, and communitarian factors and devote to the cause of truth and truth alone. Right now, when the Supreme Court is seized of the issue of same-sex marriages, everyone is appreciating the type of arguments that are advanced, the kind of interpretation that is going on, there is a lot of legal research involved in it, and how to value neutrality, and objectivity is to be maintained in a susceptible area like privacy, same-sex marriage, LGBT rights. Neutrality is required, and that is very much essential. When there is a law, there are various factors that have led to the enactment of that law. There are multiple dimensions of these factors. There are socio-economic policies. There are cultural underpinnings. There are political decisions. There are

equations of expedience, depending upon the combination of parties that go to form the government. These are all the factors that are there behind the enacting of a particular law. There could be substantial debate on policies, and policy issues.

There are fascinating statements, but the researcher's duty is to make truthful statements after critically analysing all these factors, what all factors led to the enactment of a law, analyse critically, and make out what is the truth.

Bias: Its Impact

If a researcher is biased, the very notion of research will be subverted. So, when someone is thinking of interstate river water disputes and doing research in that area, one should forget to which state he or she belongs. While conducting research on caste-based discrimination, one should forget what caste he or she belongs to. A woman researcher researching dowry issues should not always try to project an anti-male approach. Be detached, value neutral, and impartial; so that is how there is an obligation on the researcher to be free from prejudices and biases.

A legal researcher is not an advocate of his or her hypothesis. Everyone starts their research with some hypothesis, but not all are in favour of that hypothesis. People set hypotheses to verify their tenability. Then they collect data, synthesize, analyze, and try to verify whether that initially selected proposition holds water. That is the reason why not all support their hypothesis, nor do they thrust their prior preferences in the research findings; that is the reason why they are supposed to cultivate value neutrality, and this value neutrality is to be deliberately cultivated and meticulously applied in research. Otherwise research will be spoiled, but that is very difficult.

Value neutrality

Value neutrality is very difficult because when we say the researcher has to start with a clean-slate mind, nothing is written on that clean-slate. This clean-slate requirement should operate with some conditions. It is stated, in fact, a clean slate

is unrealistic when research has to be purposive. Research is to be purposive and everyone is researching to ameliorate the conditions, find a solution, promote the good of society, etc. Research is purposive and when research is purposive, a clean slate is impossible, and these conditions arise from the primordial position of values which society wants to attain. Society wants to attain harmony, welfare, and good governance. For this purpose, they have gone for a superior norm of higher obligation and made a Constitution. The Constitution is the embodiment of supreme values, and we have accepted this Constitution, we are celebrating the Constitution. All our institutions of governance respect this Constitution. Everyone obeys the Constitution and that's why the Constitution has the supreme position, and unquestionable base. Kelsen calls a Constitution a meta-juristic fact whose validity shall be beyond analysis. Everyone accepts these constitutional values, and while conducting research, these constitutional values, they are promoting harmony, promoting public order, adhering to egalitarian principles- how to establish egalitarian principles, how to protect personal liberty, these things will interfere in the research; to that extent, one can say that, one cannot start with a totally clean slate, because when one has a value-loaded Constitution, which governs the whole establishment.

John Marshall's characterization of a Constitution as an attempt to comprehend eternal values points out the continuity of fundamental values. Supreme Courts in Kesavananda and subsequent cases to establish the presence of basic structure is an example. Most constitutionally related legal matters are discussed, keeping faith in prime values such as equality, liberty, welfare, national unity, democracy, etc. To that extent, legal research is not free from value discourse; hence perfect value neutrality is not visible. Any constitutional issue that is debated in this country is debated keeping these values in mind; all the research conducted also is conducted keeping these values in mind. So, to that extent, it is to be accepted that it cannot be so value neutral. To that extent, legal research is not free from value discourse and hence, perfect value neutrality is not possible.

Originality

Moreover, another factor which a researcher has to adhere to is originality in legal research. Why does one conduct research? One conducts research to generate knowledge, evolve concepts and has concepts ready to be used when there is a need for concepts. When society meets with a crisis situation, one should not start research and keep on conducting research and keep things ready when its time comes; these concepts can be pressed into service and used for the nation's good. So, expanding knowledge is crucial, and that is the cardinal object of research, developing original thoughts.

If a researcher wants to develop original thoughts, then he or she needs to pose new questions, which involve intellectual work of meticulous analysis. There is no concept of easy and difficult topics. When it comes to the point of research, all topics or topics undertaken are worthy of research. In every area, there is scope for contribution to the knowledge and generation of knowledge. Terry Hutchinsons says, "Scholarship thrives on the use of what other scholars have done. One should study first and see what other scholars have done. Everyone depends on others to some extent, for what one does and achieve. Every researcher stands on the shoulder of earlier researchers, that's how one is in a position to look far ahead than the earlier researchers because one is standing on the shoulders, that is how we conceive legal realities." It is possible to dwell and expand on what exists already, to study what exists and expand it, to reread and re-interpret existing sources, and thus, to say something new, or at least in a different way. Even if someone is studying the same problem, he or she may conclude in a different way. Here, originality is very important, and that comes by asking appropriate questions to the researcher, and one should not repeat what others have done because that is ethically wrong.

Originality neither descends from the heavens on its own nor reveals itself in response to somebody's prayers. One cannot pray to God to allow them to be original researchers. Originality is the output of the creative mind. It is an output of the creative

mind, and this creative mind questions the basic assumptions that are underlying existing notions. This is what is happening before the Supreme Court several times. The existing notions are questioned, and new dimensions are poured out.

Reflective thinking

Reflective thinking, using our cognitive processes, has the great potential of bringing originality modestly, if not spectacularly. When someone appreciates that concept of reflective thinking, as propounded by Dewey and Kelly, the first three levels of science and the following three levels of philosophy arrive at the ultimate truth. In this process, a person will develop originality. Even modestly, if not absolutely, even if they are not coming out with spectacular output of research, they will come out with good output if they use a reflective thinking process because this reflective thinking process starts from the instances of specific experience, and relating each one to other and arriving to the highest level of generalization, has the ability to produce qualitative outputs and in practice, it is always possible to have an alternative viewpoint.

If somebody has arrived at one conclusion, it is possible for somebody else to arrive at a different conclusion in the same situation. That is possible, and it is possible for a person to come out with a solution on different grounds or justifications by asking different questions.

A researcher can project a new hypothesis or use a different set of evidence. The source of data, area of research, entities, or institutions that are subjected to research may be changed. By using different methods, one can arrive at different conclusions and have the interdisciplinary approach or application of different empirical tools for collecting data or evidence, which may result in very novel propositions. So, that's how originality is attained. An Australian scholar, Estelle Phillips has listed some suggestions to develop originality. As a researcher, one wants to make an original contribution- how one can strive towards making an original contribution. He has listed some suggestions to strive toward originality.

He says, “Focus on untraversed areas or unsaid aspects.” This is what the majority of people do. By literature survey, finding out research gaps, one is interested in a particular area, wants to undertake research in a particular area, and goes on studying that area. Note what are the gaps that are there, which are untouched? Nobody has said anything about it. For example, recently, in The Mint, there was one small write-up on democracy, and the author advocates for cognitive autonomy. He says cognitive autonomy should be a fundamental right in this country.

Till now, the discussion on the right to information, right to expression, freedom of information, freedom of expression, publication, advertisement, commercial speech, and the way customized advertisements bombard the individuals, their very decision-making process or thinking process is affected through this bombardment, through various media platforms, what is known as social media.

A competitive market influences decisions, and many are victims of these psychologically researched advertisements customized to attract customers of different age groups and do their business. Are they living their life, or are they a pawn? Where is their freedom of choice? Their freedom of choice is determined by the type of information that is pumped into their head. Their cognitive process is not free. They are taking cognizance of what is fed to them.

One’s freedom of choice is gone, and freedom of choice is at the root of democracy because people decide to vote for this party or that party, and if this freedom of choice itself is going to be affected, what will happen to democracy? This is the question asked.

The right to cognitive autonomy should be a fundamental right. That is what the author says. Until now, many law professors have never considered the right to cognitive autonomy. Right to be forgotten, that has become pretty old. In the case of an employee of a firm, and beyond office hours, the firm is not

supposed to access the employee. After office hours, it is the personal life of the employee. That is what this right to disconnect is. Estelle Phillips suggests that to develop originality, focus on untraversed areas or unsaid aspects; hold a new empirical study using new methods of analysis, synthesis, or interpretation. Take different components and compare different countries and societies for comparative legal research. Using old techniques, new areas can be covered, and visa-versa. Newly testing existing knowledge and collating present ideas with new approaches. These are the propositions used for the purpose of striving for originality in research. So, what is essential to be kept in mind is- that a researcher should maintain objectivity, neutrality, and originality. With that, the other component starts, which covers all these components: ethics. These are all ethical principles, and, plus, these three aspects, ethics in itself, as a value or as an umbrella value, which encompasses all these values, is to be understood.

Research aims to develop knowledge. When we value some of the thesis, a question that comes to mind is, "Why has this fellow conducted this research?"

Some people go for such a proposition, which is well accepted; there need not be research to prove that. What is obvious need not be proved, but we come across things like that. It is important to keep in mind that the aim of research is to develop knowledge, and it should not be knowledge for the sake of knowledge. It should not be research for the sake of research.

Linking the method of gaining knowledge to the sense of good becomes appropriate and imperative. A researcher should not conduct inquiry according to his whims and fancies, which may adversely affect the interests of others.

Ethics or habit is the conceptual basis for research. Researchers should act with a sense of responsibility towards the rights of others and approach fairness in other actions. See, a researcher should be fair and respect the rights of others.

The community has accepted some ethical norms, and they are to be respected by everyone. Morals are involved in the practice of ethics by the community because the community has collectively accepted all these values. In the sphere of research, morals and ethics attain great importance because they impact the research work and its process and its effect on human beings and society. A researcher should be highly responsible to society.

Research ethics

Thomas and Hodges define research ethics as "the standards of professional conduct that researchers are expected to maintain in their dealings with colleagues, research participants, sponsors, and for funding agencies, and the wider community. These include responsibilities to ensure research projects are designed and conducted safely, fairly, and with integrity." So, this is what Thomas and Hodges define. Research ethics and a professional standard of conduct are expected of the researcher, and he is expected to maintain these ethics.

The research has its own implications. It should not create any chaos or disorder in society, and it should not affect society adversely. Here, ethics connotes probity, as well as transparency. There is a need to act ethically in choosing the topic.

The use of ethically right propositions in data collection is very important. There is a need to act ethically in choosing the topic, protecting identity, and confidentiality, collecting data, avoidance of conflict of interest, seeking informed consent, and one should be ethical in not fabricating or falsifying the data and, ultimately, avoidance of plagiarism. All these issues, like maintaining confidentiality, avoiding conflict of interest, seeking informed consent, prevention of fabrication or falsification of data have produced ethical governance of research. But too much moral regimentation may prevent the spirit of enquiry. For example, one cannot conduct research on the proposition, "How to circumvent Criminal Law?" "How to circumvent laws for the protection of women?" Actually, these cannot be the

propositions that are to be researched because they are not ethically right, but when we go for a lot of moral bindings, it may affect the research. The balance between researchers' autonomy and the regime of ethical regulation is to be maintained. The balance should be properly struck so that neither the researcher's liberty nor the interest of other parties is affected adversely. So, over a period of time, ethical norms in relation to research evolved in the U.S.

In an infamous instance of the Tuskegee syphilis study, which was undertaken over 40 years, in 1931, this research on syphilis was confined only to black people in Alabama, and these people were kept out of available medicine.

Since the study was going on, whatever medicine that has come into existence for the purpose of treating syphilis was not available to these people who were under study, and when the matter came out, the U.S. Congress enacted the National Research Act of 1974, to provide for human research guidelines and hence the National Research Act was enacted.

Subsequently, in 2008, another very peculiar study was conducted in schools, where students were divided into prisoners and guards. Prisoners and guards role play, and this study resulted in a long-term impact on the students. Some students underwent depression, some students became very cruel. It was all because of that study, wherein students were given role play that will adversely affect them, that is not ethically correct to do such research involving students, and there was another study about how normal people who are put into psychiatric institutions along with abnormal people will behave, and these normal people who were made to stay in the psychiatric institutions developed slight mental disorder, subsequently. These are all in violation of the rights of the subjects of study.

In India, what happened was the Indian Council of Medical Research notified a policy statement on ethical considerations in research on human subjects in 1980. Moreover, this

statement on ethical considerations is based on the recommendations of the Ethics Committee, headed by Justice H.R. Khanna. The Central Ethics Committee on Human Research, under the Chairmanship of Justice M.N. Venkatachaliah, which I.C.M.R. appointed, has published Ethical Guidelines for Biomedical Research on Human Subjects, 1997. That is about the health sector, but in the field of social senses, nothing much has happened. There was a controversial report by an institution by the name of Sahayog, a research body. It was related to the sexual behaviour of the HIV-infected community in Almora in Uttarakhand, and this publication created concerns about the rights of the participants- H.I.V.-infected people, and this resulted in Centre for Enquiry into Health and Allied Themes (CEHAT). CEHAT was constituting the National Committee for Ethics on Social Science Research. So, the National Committee and Ethics in Social Science Research came into existence, and this committee has formulated the Ethical Guidelines for Social Science Research in Health (EGSSRH).

According to EGSSRH, four moral principles form the basis of ethics in research. One, research must not cause harm to the participants, in particular, and people in general, this is the principle of non-malfeasance. Second, research should also possibly contribute to the welfare of the people, the principle of beneficence. Third, research must respect and protect the rights and dignity of the participants, the principle of autonomy. Fourth, the benefits and risks of research should be fairly distributed among people. That is the principle of justice.

Ethical Principles for Social Science Research

There are 10 general, ethical principles for social science research under these guidelines- first, adequate consideration of all essential and relevant data, existing knowledge, and alternative views should be taken into consideration; second, maximize the achievement of public interest, and social justice, social benefit; third, sincere commitment and readiness to acquire knowledge, ability and skill; fourth, respect and protection of autonomy, rights and dignity of participants, in

research, participation shall be voluntarily based on informed consent; fifth, ensure privacy, anonymity and confidentiality; sixth, take adequate precaution and minimize risk; seventh, avoid wasting of time of participants, loss of money and resources, don't go on conducting research into unworthy areas; eighth, bring information about research and result to the public, publish research; ninth, conduct research in fair honest and transparent manner, be open to social and financial review; tenth, responsibility on the part of the researchers institutions, funders and publishers to observe the principles of ethics.

Informed consent

These are the requirements, and there is an elaboration about informed consent. Informed consent means one has to explain the objectives of the research, the contact details, fund providers, and the purpose for which the research is conducted, everything should be provided to the individuals, and their consent should be taken. Suppose the consent of the community is needed. In that case one has to take the whole community's consent, which can be withdrawn anytime, without any hassles or without assigning any reasons. If minors are involved, informed consent of the parents or guardians ought to be taken, and there are very few small supplements here. There is a relationship between researchers and society. There should not be fraud, and there should not be waste.

No fraud, no waste

Ethically there should be no fraud, no waste. Fraud means that there should not be falsification of data. Research should be based upon facts- truth. One should not falsify data and present to society something which is not in existence; that is a violation of the ethical principle. No falsification of data. No waste that is, submitting false claims, looting research funds. That should not happen. Moreover, there are situations wherein the researchers are prosecuted for data falsification. One should not venture into such things. Moreover, there should not be wasteful funding over trivial research. For example, somebody conducts a study on the aggressive behaviour of monkeys. So, what is to

achieve by studying the aggressive behaviour of monkeys? That is a wasteful expenditure of worthy research funds. Furthermore, the methodology that is used should be disclosed. Authorship credit shall be given to all the people who are involved in the research. Moreover, a researcher is not a sensational monger. The sensationalization of publishing the research outcomes should be restrained. There should be a sort of self-regulation by not giving press releases because it may lead to consequences which may not be for the good of the society.

Responsible manner

Researchers should conduct themselves in a responsible way in the interest of national security and public order, especially those involved in archaeological research who may stumble upon communally sensitive edicts or evidence, etc. So, how will common people respond to these findings if they are published in a common domain? That is not a place where one should speak of the research. It should be confined to these specialized areas. So, a researcher has to behave and conduct in a highly responsible way in the interest of national security and public order. There should be respect for national security and public order. There should be respect for pluralism and the sense of coexistence of diverse cultures. Research findings should not promote communal disharmony and communal strife. All sorts of conflicts should be avoided.

Relationship with founders, sponsors etc.

A researcher has relationships with founders, sponsors, and institutions. One should report progress periodically to the funding agency where it is funded, submit a copy of the progress made and ultimately submit a copy of the report as per the agreed schedule. The funding institution should respect the autonomy of the researcher. They should not exert pressure on the researcher to come out with wanted research wanted by the sponsoring authority.

Financial integrity

Moreover, in spending money, there should be financial integrity along with no wastage of resources. Transparency and accountability should be there as far as the handling of the funds is concerned. Researchers' relationship with other researchers- if it is a major project, then there is a principal of assistant and other researchers. The principal researcher is responsible for the ethical conduct of all juniors, students, trainees, and everyone involved in the project. One should say that all of them will adhere to the ethical norms. Moreover, no researcher should be involved in any project that is discriminatory, exploitative, or harassing of the people involved. Nobody should seek sexual favours, economic gains, etc. Researchers should be cooperative and responsive to all fellow researchers. He should be respectful towards other researchers involved in the project.

Plagiarism: UGC Regulations

Furthermore, avoiding plagiarism is the last thing to touch upon. The University Grants Commission's Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions Regulations, 2018 are in place. As per these regulations, plagiarism means taking someone else's work or original idea and passing it as his own idea or work. Regulation 7 is a very important regulation. It speaks of what is excluded from the similarity checks for plagiarism. All quoted works should be introduced with permission or attribution that is acknowledgement are excluded. All references, bibliography, table of contents, preface, or acknowledgement should be excluded. All generic terms, laws, symbols, and standard equations are excluded. All that is of common knowledge and coincidental terms up to 14 consecutive words that are exempted from the similarity checks.

Regulation 8 classifies plagiarism into different levels. Level 0, similarity up to 10%, there is no penalty. Level 1, 10 to 40%, in that situation, the penalty is resubmission within six months. Level 2, 40 to 60%, a debarment to resubmission for one year.

Level 3, above 60% cancellation of registration. These are the four levels, 0 1 2 3 levels of plagiarism under regulation 8. That is about LLM dissertation and Ph.D.

As far as academic and research publications are concerned, there are four levels, but the penalty varies for academic publications. Level 0, no penalty; Level 1, compulsion to withdraw the manuscript; Level 2, withdrawal of the manuscript denial of one annual increment and disqualification from supervising either M.Phil. or Ph.D. students for two years. Level 3, withdrawing the manuscript, denial of two annual increments, and disqualification from supervising M.Phil. or Ph.D. students for two years. Moreover, in case of repeated misconduct, there may be dismissal, termination from service, and withdrawal of all the benefits.

To achieve this, there is a three-pronged action plan in the regulations. One is creating responsible conduct. This means to students and faculty members to prevent plagiarism in academic writing. Second, establishing institutional mechanisms through training and education, through coursework to avoid all these things. Third, developing a system of mechanisms to detect, enquire and punish persons involved in plagiarism. Now all the applications have come- Turnitin, Shodhganga and all these things are used to detect and prevent plagiarism before it is submitted.

Punctuality

Ethically, a researcher has to maintain work culture and punctuality. Research is like scaling a mountain of knowledge, and scaling a mountain of knowledge requires dedicated efforts of committed time-bound work. There is a fundamental duty to strive towards excellence in all spheres. That is the fundamental duty that one is in, in all spheres of individual and collective activity, so that the nation constantly rises to higher levels of endeavour and achievement. For this purpose, a researcher should develop a work culture, be punctual, and perform on a time-bound basis. H.W. Longfellow's poem, the heights by great men reached and kept were not attained by sudden flight, but

they, while their companions slept, were toiling upward in the night. Nothing is produced overnight. No great work is produced overnight; it requires assiduous, committed, and time-bound work that results in quality research. Moreover, as researchers, all should strive to be ethically upright to contribute our own mite to the bastion of knowledge, which will benefit the society and the nation.

About the Editors

Prof (Dr.) V. K. Ahuja is a Senior Professor at the Faculty of Law, University of Delhi and is presently serving as the Vice-Chancellor of National Law University and Judicial Academy, Assam. He has been a prolific academic in the field of Intellectual Property Rights and International Law. Prof. Ahuja is an alumnus of University of Delhi and Jawaharlal Nehru University, New Delhi. He is having almost 30 years of experience in teaching and has also served in several institutions of national and international repute in various administrative capacity. He served as a member of the BoS/AC/EC of several Central and State Universities. Prof. Ahuja is one of the Jury members of India Small and Medium Enterprises (SME) 100 Awards of 2022. In 2003, he received the first prize as an exemplary teacher in the Fifth South Asian Teaching Session on International Humanitarian Law and Refugee Law organized jointly by the International Committee of the Red Cross (ICRC), United Nations High Commissioner for Refugees (UNHCR) and National Law School of India University, Bangalore. Prof. Ahuja has also immensely contributed towards legal research through his publications.

Prof. (Dr.) R. N. Sharma is Visiting Professor of Law in National Law University and Judicial Academy, Assam. Prof. Sharma, an alumnus of Jodhpur University, has started his career as Assistant Professor in the Faculty of Law, Jodhpur University in 1978 and got retired in 2011 as Professor Dean and Head from Faculty of Law, J.N. Vyas University, Jodhpur. After retirement he joined as Dean, School of Law, Mewar University Rajasthan. He has also worked as Professor and Dean, School of Law, IMS Unison University, Dehradun. Prof. Sharma served as the Vice Chancellor of IASE Deemed University, Sardarshahar for more than two years. He has more than 35 years of teaching experience and has authored nine books with publishers of repute. Apart from being a seasoned academician, Prof. Sharma also has vast administrative work experience in several capacity during his illustrious career.

Dr. Gitanjali Ghosh has been Assistant Professor of Law at NLUJA, Assam. She is currently engaged in the teaching of International Law, Family Law and Human Rights Law. Previously, she was Researcher under the Human Rights Lawyering Project at the Centre for Women and the Law, National Law School of India University, Bengaluru (NLSIU). She completed LL.M. in Human Rights Law in 2014 and Ph.D. in Law in 2019, both from the NLSIU, Bangalore. She has authored a book in addition to several publications in peer-reviewed and UGC Care List Journals. She is currently a member of the IUCN World Commission on Environmental Law. She is co-coordinator of the Centre for Child Rights and a member of the AC and IQAC of the University.

National Law University and Judicial Academy, Assam