



A COMPARATIVE STUDY OF AWARENESS AND USE OF INNOVATION BASED TEACHERS IN TEACHER TRAINEES

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ABSTRACT- In The Twenty-First Century, Significant Changes Are Occurring Related To New Scientific Discoveries, Informatization, Globalization, The Development Of Astronautics, Robotics, And Artificial Intelligence. This Century Is Called The Age Of Digital Technologies And Knowledge. How Is The School Changing In The New Century? How Does Learning Theory Change? Currently, You Can Hear A Lot Of Criticism That The Classroom Has Not Changed Significantly Compared To The Last Century Or Even Like Two Centuries Ago. Do The Teachers Succeed In Modern Changes? The Purpose Of The Chapter Is To Summarize The Current Changes In Didactics For The Use Of Innovative Teaching Methods And Study The Understanding Of Changes By Teachers. In This Chapter, We Consider Four Areas: The Expansion Of The Subject Of Pedagogy, Environmental Approach To Teaching, The Digital Generation And The Changes Taking Place, And Innovation In Teaching. The Theory Of Education, Figuratively Speaking, Has Two Levels. At The Macro-Level, In The "Education-Society" Relationship, Decentralization And Diversification, Internationalization Of Education, And The Introduction Of Digital Technologies Occur. At The Micro-Level In The "Teacher-Learner" Relationship, There Is An Active Mix Of Traditional And Innovative Methods, Combination Of An Activity Approach With An Energy-Informational Environment Approach, Cognition With Constructivism And Connectivism.

Keywords innovative teaching, students', diversity, students', performance

I. INTRODUCTION

India Is One Of The Progressing Countries In The World. Its Education System Is Yet In The Stage Of Development. Students From Towns And Far Flung Areas Come To Advanced Cities For Higher Education. This Has Made The School And University Classrooms A Mix Of Students Having A Diversity Of Age, Gender, Exposure, Language, And Family Backgrounds. To Facilitate All These Students With Personal Differences Under The Same Roof, A Teacher Has To Adapt Curriculum And Lesson Plans While Bringing Innovations In His Teaching Methods. This Study Aims To Find Out The Use Of Innovative Strategies By The Teachers To Respond To Students' Diversity At Education Level In Public And Private Sector Of India. The Research Is Based On The Assumption That Innovative Teaching Has A Positive Impact On The Performance Of Students' Diversity. A Survey Of Higher Education Teachers Was Conducted For The Research. Statistics Were Applied For The Analysis. The Results Are Found To Be Significant In Favor Of Innovative Teaching. The Analysis Shows That The Use Of Innovative Teaching Is More In Private Sector And Also Has Different Impact On Different Disciplines. Education Is Sometimes Perceived As A Sector Which Is Resistant To Change, While At The Same Time It Faces A Crisis Of Productivity And Efficiency. Innovation Could Help Improve The Quality Of Education, As Well As Provide More "Bang For The Buck" Intimes Of Budget Pressures And Rising Demand. This Chapter Considers What Is Meant By Innovation In The Context Of The Education Sector, And How Best It Can Be Measured. Using Data From International Surveys, It Finds That Education Is More Innovative In Some Ways Than Other Sectors And That There Has Been Innovation Across All Countries, Particularly In Teaching Methods. It Considers What Skills Are Needed To Encourage Innovation More Widely In The Economy And Whether Schools And Universities Are Helping Students Develop Those Skills.

Education, Being A Social Institution Serving The Needs Of Society, Is Indispensable For Society To Survive And Thrive. It Should Be Not Only Comprehensive, Sustainable, And Superb, But Must Continuously Evolve To Meet The Challenges Of The Fast-Changing And Unpredictable Globalized World. This Evolution Must Be Systemic, Consistent, And Scalable; Therefore, School Teachers, College Professors, Administrators, Researchers, And Policy Makers Are Expected To Innovate The Theory And Practice Of Teaching And Learning, As Well As All Other Aspects Of This Complex Organization To Ensure Quality Preparation Of All Students To Life And Work.

Here We Present A Systemic Discussion Of Educational Innovations, Identify The Barriers To Innovation, And Outline Potential Directions For Effective Innovations. We Discuss The Current Status Of Innovations In Indian Education, What Educational Innovation Is, How Innovations Are Being Integrated In Schools And

Colleges, Why Innovations Do Not Always Produce The Desired Effect, And What Should Be Done To Increase The Scale And Rate Of Innovation-Based Transformations In Our Education System. We Then Offer Recommendations For The Growth Of Educational Innovations. As Examples Of Innovations In Education, We Will Highlight Online Learning And Time Efficiency Of Learning Using Accelerated And Intensive Approaches.

II. INNOVATION IN EDUCATION: WHY AND WHAT

Education Systems Are Running Up Against Very Serious Problems Which, If Left Untouched, Could Result In Serious Risks Not Only For Education Itself But Also For Future Economic Growth, Social Progress And Well-Being. Since The Mid-20th Century, Education Systems Have Expanded Enormously And Human Populations Have Never Been More Highly Educated Than Today. Emerging Economies And Developing Countries Are Now Also Relentlessly Expanding Their Education Systems, Seeing Education As An Indispensable Ingredient Of Modernisation And Progress. Indeed, The Benefits To Individuals And Societies Of Ever More Education Remain Very Impressive. Yet, Although Many Policy Makers May Consider The Continued Expansion In Numbers As The Best Route Forward, A Closer Look Into The Data Reveals That This May As Well Lead Us Into Difficulties.

III. WHAT IS EDUCATIONAL INNOVATION?

Creativity Is Thinking Up New Things. Innovation Is Doing New Things (Theodore Levitt).

To Innovate Is To Look Beyond What We Are Currently Doing And Develop A Novel Idea That Helps Us To Do Our Job In A New Way. The Purpose Of Any Invention, Therefore, Is To Create Something Different From What We Have Been Doing, Be It In Quality Or Quantity Or Both. To Produce A Considerable, Transformative Effect, The Innovation Must Be Put To Work, Which Requires Prompt Diffusion And Large-Scale Implementation.

Innovation Is Generally Understood As The Successful Introduction Of A New Thing Or Method” In Essence, “Innovation Seems To Have Two Subcomponents. First, There Is The Idea Or Item Which Is Novel To A Particular Individual Or Group And, Second, There Is The Change Which Results From The Adoption Of The Object Or Idea” Thus, Innovation Requires Three Major Steps: An Idea, Its Implementation, And The Outcome That Results From The Execution Of The Idea And Produces A Change. In Education, Innovation Can Appear As A New Pedagogic Theory, Methodological Approach, Teaching Technique, Instructional Tool, Learning Process, Or Institutional Structure That, When Implemented, Produces A Significant Change In Teaching And Learning, Which Leads To Better Student Learning. So, Innovations In Education Are Intended To Raise Productivity And Efficiency Of Learning And/Or Improve Learning Quality. For Example, Khan’s Academy And Moocs Have Opened New, Practically Unlimited Opportunities For Massive, More Efficient Learning.

IV. OBJECTIVES OF THE STUDY

- 1-Do Teachers Know These Strategies?
- 2-Are They Using Them In Their Classrooms?
- 3-Which Sector Of Higher Education Is More Involved In Utilization Of Innovative Teaching?

V. ASSUMPTIONS OF THE STUDY

The Following Assumptions Were Made For The Study:

- 1-Good Practices And A Wide Variety Of Innovative Teaching Methods Are Being Used To Teach Diverse Students.
- 2-Teachers Are Properly Trained And Aware Of Innovative Teaching Strategies In Universities.
- 3- Teachers Are Skillful In Dealing With A Diverse Classroom At A Higher Education Level.

VI. INNOVATION IN EDUCATION

The Sense Of Urgency Innovation In Education Is A Highly Contentious Issue. Talking To Education Ministers One Quickly Gets The Impression That Education Systems In General Are Very Reluctant To

Innovate, And That There Is Strong Resistance To Change Among Teachers. Education Is Sometimes Perceived As One Of The Most Conservative Social Systems And Public Policy Fields. But Talking To Teachers Gives One The Opposite Idea – That There Are Too Many Changes Imposed On Them Without Much Consultation Or The Necessary Preconditions For Successfully Implementing Change. In Some Countries, Innovative Change Has Been Implemented Without The Care And Diligence Needed Or The Appropriate Prior Testing, Experimentation And Evaluation.

The Problem Education Is Facing Is Mainly One Of Productivity And Efficiency. Here, Efficiency Means The Balance Between Resources Invested And The Outcomes In Terms Of Students' Performance And Equity. Over The Past Decades Ever More Resources Have Been Invested In Education. Looking Just At School Education, The Average Expenditure Per Student Across OECD Countries Increased By No Less Than 17% Between 2013 And 2018 In Constant Prices (OECD, 2018). But Over Roughly The Same Period, The Programme For International Student Assessment (PISA) Data From The 2013 And 2018 Surveys Show No Significant Improvement In Test Scores. Instead, In Most Countries The Percentage Of Top Performers Has Declined. And, While The PISA Data Show Some Progress In Equity, Huge Gaps Remain In Equality Of Opportunity And Education Outcomes Between Various Social Groups (OECD, 2018). The Problem Of Productivity And Efficiency In Education Is Even More Striking When Education Is Compared With Other Public Policy Sectors, Which Have Realised Enormous Productivity Gains In Past Decades.

Both Policies And Theories On Innovation Have Mainly Focused On The Business Sector (Lekhi, 2007). Businesses Need To Innovate In Order To Keep Up With Their Competition By Introducing New Products Or Services, Improving The Efficiency Of Their Production Processes And Organisational Arrangements, Or Enhancing The Marketing Of Their Activities In Order To Guarantee Their Survival. Much More Recently, Policy Interest Has Extended This "Innovation Imperative" From Private Organisations To The Provision Of Public Services. Although Public Services, Including Education, Tend Neither To Operate Within Competitive Markets Nor Have The Same Incentives To Innovate As Businesses Do (Lekhi, 2007), There Are Important Arguments To Push For Innovation In Education To Maximise The Value Of Public Investment .

A National Education System Is Commonly The Product Of A Distinctive Set Of Historical, Political, Social, Cultural, And Economic Effects. As It Is A Complete System, Its Different Areas Are Not Only Interrelated And Interdependent But Act Together. Subsequently, Any Change In One Of Them May Generate A Change In Others. A Few Examples Of Innovations In Some Areas That Made A Drastic Impact On The Whole Educational System Are:

Political (NCLB (No Child Left Behind Act), Race To The Top);-Social (Equal Opportunities Act, Affirmative Action Policy, Individuals With Disabilities Education Act);

Philosophical (Constructivism, Objectivism);-Cultural (Moral Education, Multiculturalism, Bilingual Education); Pedagogical (Competence-Based Education, STEM (Curriculum Choices In School: Science, Technology, English, And Mathematics); Psychological (Cognitive Science, Multiple Intelligencies Theory, Maslow's Hierarchy Of Needs, Learning Style Theory); And Technological (Computer-Based Learning, Networked Learning, E-Learning).

VII. MEASURING ORGANISATIONAL CHANGE IN EDUCATION

The Second Approach To Measuring Innovation Uses Micro-Data Collected Within Schools. Measuring Innovation In Education Presents A Range Of Indicators Based On An Approximation Of The Traditional Innovation Definition (OECD, 2014). It Applies The Working Definition Of Innovation As The Implementation Of A New Or Significantly Changed Process, Practice, Organisational Or Marketing Method Observed At The Education System Level, Concentrating Particularly On Changes In Practice. However, Given That We Cannot Directly Observe Whether Any Of These Changes Are An "Improvement", It Has Had To Depart From The Oslo Manual Definition And Use Change As A Proxy Measure. It Can Be Assumed That Change Occurs Because Of A Belief That The New Version Is An Improvement Of Some Educational Goal. The Project Captured Innovation As A Significant Change In Some Key Practices In Educational Establishments By Drawing On The PISA, TIMSS And PIRLS Databases. Although These Studies Are Designed To Measure Student Outcomes, They Also Collect Information About Educational And Teaching Practices At A Point In Time.

VIII. EFFECTS OF TECHNOLOGY INNOVATIONS IN EDUCATION

A Tool Is Just An Opportunity With A Handle(Kevin Kelly).

When Analyzing Innovations Of Our Time, We Cannot Fail To See That An Overwhelming Majority Of Them Are Tangible, Being Either Technology Tools (Laptops, Ipads, Smart Phones) Or Technology-Based Learning Systems And Materials, E.G., Learning Management System (LMS), Educational Software, And Web-Based Resources. Technology Has Always Served As Both A Driving Force And Instrument Of Innovation In Any Area Of Human Activity. It Is Then Natural For Us To Expect That Innovations Based On ET Applications Can Improve Teaching And Learning. Though Technology Is A Great Asset, Nonetheless, Is It The Single Or Main Source Of Today's Innovations, And Is It Wise To Rely Solely On Technology?

The Rich History Of ET Innovations Is Filled With Optimism. Just Remember When Tape Recorders, Video Recorders, TV, Educational Films, Linguaphone Classes, Overhead Projectors, And Multimedia First Appeared In School. They Brought So Much Excitement And Hope Into Our Classrooms! New Presentation Formats Catered To Various Learning Styles. Visuals Brought Reality And Liveliness Into The Classrooms. Information And Computer Technology (ICT) Offered More Ways To Retrieve Information And Develop Skills. With Captivating Communication Tools (Iphones, Ipads, Skype, Facetime), We Can Communicate With Anybody Around The World In Real Time, Visually, And On The Go. Today We Are Excited About Online Learning, Mobile Learning, Social Networking Learning, Moocs, Virtual Reality, Virtual And Remote Laboratories, 3D And 4D Printing, And Gamification. But Can We Say All This Is Helping To Produce Better Learning? Are We Actually Using ET's Potential To Make A Difference In Education And Increase Learning Output?

All Innovations Are Ultimately Directed At Changing Qualitative And/Or Quantitative Factors Of Learning Outcomes:

Qualitative: Better Knowledge, More Effective Skills, Important Competencies, Character Development, Values, Dispositions, Effective Job Placement, And Job Performance; And

Quantitative: Improved Learning Parameters Such As Test Results, Volume Of Information Learned, Amount Of Skills Or Competencies Developed, College Enrollment Numbers, Measured Student Performance, Retention, Attrition, Graduation Rate, Number Of Students In Class, Cost, And Time Efficiency.

Innovation Can Be Assessed By Its Novelty, Originality, And Potential Effect. As Inventing Is Typically A Time-Consuming And Cost-Demanding Experience, It Is Critical To Calculate Short-Term And Long-Term Expenses And Consequences Of An Invention. They Must Demonstrate Significant Qualitative And/Or Quantitative Benefits. As A Psychologist Mihalyi Csikszentmihalyi Writes, "Human Well-Being Hinges On Two Factors: The Ability To Increase Creativity And The Ability To Develop Ways To Evaluate The Impact Of New Creative Ideas"

In Education, We Can Estimate The Effect Of Innovation Via Learning Outcomes Or Exam Results, Teacher Formative And Summative, Formal And Informal Assessments, And Student Self-Assessment. Innovation Can Also Be Computed Using Such Factors As Productivity (More Learning Outcomes In A Given Time), Time Efficiency (Shorter Time On Studying The Same Material), Or Cost Efficiency (Less Expense Per Student) Data. Other Evaluations Can Include The School Academic Data, College Admissions And Employment Rate Of School Graduates, Their Work Productivity And Career Growth.

IX. CONCLUSION

Indian Education Desperately Needs Effective Innovations Of Scale That Can Help Produce High Quality Learning Outcomes Across The System And For All Students. We Can Start By Intensifying Our Integration Of Successful International Learning Models And Creating Conditions In Our Schools And Colleges That Foster And Support Innovators And Educational Entrepreneurs, Or Edupreneurs (Tait And Faulkner, 2016). Moreover, These Transformations Should Be Varied, Yet Systematic, Targeting Different Vital Aspects Of Education. Deep, Multifaceted, And Comprehensive Innovations, Both Tangible And Intangible, Have The Capacity To Quickly Generate Scalable Effects.

Radically Improving The Efficiency And Quality Of Teaching And Learning Theory And Practice, As Well As The Roles Of The Learner, Teacher, Parents, Community, Society, And Society's Culture Should Be The

Primary Focus Of These Changes. Other Promising Approaches Should Seek To Improve Students' Work Ethic And Attitudes Toward Learning, Their Development Of Various Learning Skills, As Well As Making Learning More Productive. We Also Have To Bring All Grades, From Preschool To Higher And Postgraduate Levels, Into One Cohesive System.

As The Price Of Education, Especially At Colleges And Universities, Continues To Rise, Cost And Time Efficiency Of Learning, Effective Instructional Approaches, And Methods And Tools Capable Of Fulfilling The Primary Mission Of Education All Will Become Critical Areas Of Research And Inventive Solutions. Colleges And Universities Must Concentrate On Expanding The Value Of Education, Maximizing The Productivity Of Learning, Correlating Investments With Projected Outcomes, And Improving Cost And Time Efficiency.

Whatever Technologies We Devise For Education, However Much Technology We Integrate Into Learning, The Human Element, Particularly The Learner And Teacher, Remains Problematic. So, While Taking Advantage Of Effective Educational Technologies, We Must Situate Those Modern Tools Within A Wider Context Of Human Education In Order To Preserve Its Humanistic, Developmental Purpose And, Thus, Make More Effective Use Of Them.

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