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1 Learning Technologies for higher education

Dr. Geetanjali Joshi

Abstract

The present paper throes light on various Learning Technologies for Higher Education. The 21st century Education focuses on higher quality and aim to develop good, thoughtful, well-rounded, and creative individuals. To achieve holistic development of learners, Higher Education Institutes (HEI) should give priority to research activities, faculty development programmes to enrich teachers with their teaching processes. An introduction of various learning technologies such as Clicker, Deeper Literacy, Podcast, Panopto, Metaverse etc. is given in this paper which will show a new path to the teachers of higher Education.

Keywords: Learning technology, Innovative, Andragogy, Holistic development, 21st century skills, Higher Education

Hypothesis : Use of Learning Technologies is an important factor to achieve the holistic development of learners.

Introduction

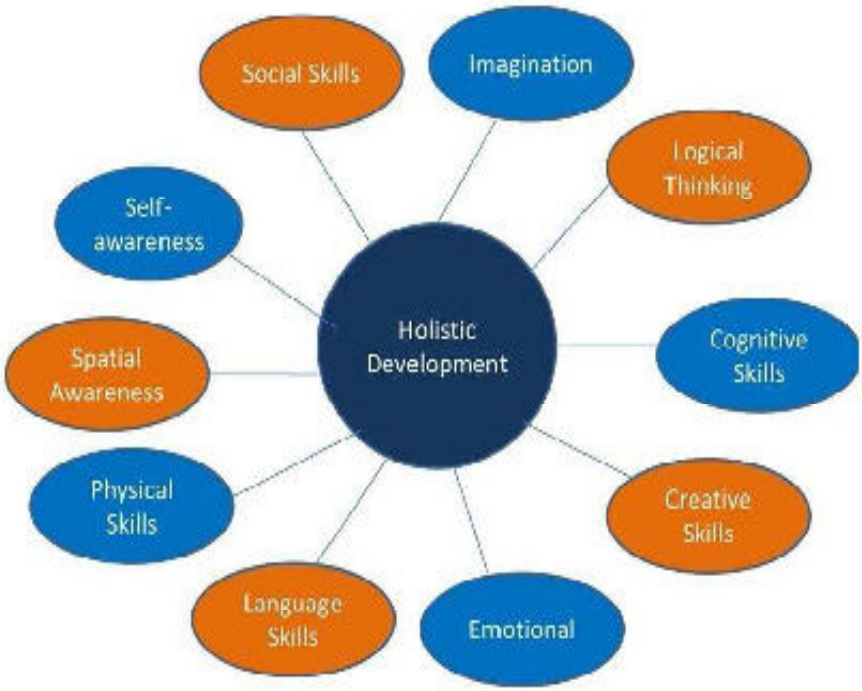
The NEP 2020 notes that "higher education significantly contributes towards sustainable livelihoods and economic development of the nation" and "as India moves towards becoming a knowledge economy and society, more and more young Indians are likely to aspire for higher education." The NEP 2020 also states that "given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals" and must enable an individual to study one or more specialized areas of interest at a deep level of the subject.

Holistic development of a learner

Department of Education, Shivaji University, Kolhapur

Holistic development is all round development of a learner with respect to intellectual, mental, physical, emotional, and social abilities which are helpful to face the challenges of the life. To achieve this goal proper pedagogies, play an important role which aims at growth and development of the learners. Higher Education Institutes (HEI) should give priority to research activities, faculty development programmes to enrich teachers with their teaching processes which in turn can proceed for holistic development of the students. Intellectual capability and cognitive ability development is one part of Holistic Development**.** This Holistic approach includes use of data and information in learning, allowing students to do abstract thinking that means understanding concepts, ideas which are not physically present.

Figure (1) shows various aspects of Holistic development such as logical thinking, self-awareness, social skills etc.



Figure(1)Holistic Development of a Learner

https://idreamcareer.com/blog/holistic-development/

Objectives of the study

1) To orient and make aware about the Learning Technologies for enhancing learning in higher education.

2) To orient about NHEQF and NEP 2020 with reference to learning technologies

3) To orient and make aware about the Andragogical tools for enhancing learning in higher Education.

4) To share and discuss the current trends and practices in higher education .

Need analysis:

The learner of Higher Education has complete autonomy and comes voluntarily to the learning situation, participating actively in the learning process. They are also very clear about the end results that they anticipate from the learning process and hence the adult learners may drop out of learning activities if their expectations aren't met. Hence special attention should be given while practicing andragogy at higher education to develop certain skills among students as per National Qualification Framework.

Andragogy Practices in Higher Education:

Malcolm Knowles' theory of andragogy is an attempt to develop a theory specifically for adult learning. The adult learning programs must accommodate the fundamental aspect that adults are self-directed and expect to take responsibility for decisions. Andragogy means the methods of teaching for adults who need to focus more on the process and less on the content being taught. Strategies such as case studies, role playing, simulations, are some of the examples of andragogies.

Let us know about various Learning Technologies:

Clicker: It is a small device that you can press, for illustration to count, record, or control commodity, or to make a small sound. It can be used for quizzes, debates etc to make tutoring literacy process interactive**.**

Deeper literacy: Deeper literacy is a set of pupil educational issues including accession of robust core academic content, advanced- order thinking chops, and learning dispositions. Deeper literacy is grounded on the premise that the nature of work, communal, and everyday life is changing and thus decreasingly requires that

formal education provides youthful people with mastery of chops like logical logic, complex problem working, and cooperation. This is a notion of enabling scholars to develop chops that empower them to apply literacy and to acclimatize to and thrive in post-secondary education as well as career and life. It gives special emphasis on the capability to apply knowledge to real- world circumstances and to break new problems.

Podcast: A podcast is a Program made available in digital format for download over the Internet.

Podcasts are primarily an audio medium, with some programs offering a supplemental videotape element.

Panopto: Panopto is suitable to automatically induce editable captions for lecture videos. In videotape, the panoptic view is the bone that allows the bystander to see everything at formerly.

Clicker

Metaverse: The Metaverse is principally a post-reality macrocosm that merges physical reality and digital virtual worlds in a multiuser terrain that's nonstop and enduring. The Metaverse is grounded on the integration of stoked reality (AR) and virtual reality (VR) technology, allowing for multimodal relations with digital products, virtual settings, and people. As a result, the Metaverse is a networked web of immersive and sociable multiuser endless platform. " The metaverse " can include virtual reality — characterized by patient virtual worlds that continue to live indeed when you are not playing — as well as stoked reality that combines aspects of the digital and physical worlds. Virtual worlds similar as aspects of Fortnite that can be penetrated through PCs, game consoles, and indeed phones have started pertaining to themselves**.**

A short history

The term" metaverse" began in the 1992 wisdom fabrication novel Snow Crash as a carryall of" meta" and" macrocosm". Recent interest in metaverse development is told by Web3, a conception for a decentralized replication of the internet. Within the metaverse stoner dependence and stoner safety are enterprises, stemming from challenges facing the social media and videotape game diligence as a whole. The metaverse is a vision of what numerous in the computer assiduity believe is the coming replication of the internet a single, participated, immersive, patient, 3D virtual space where humans witness life in ways they couldn't in the physical world.

Metaverse isn't a real physical thing that you can enjoy. It's a virtual 3D world where everyone can share. There are different metaverses created by different people or brigades. Metaverse is supposed to be the coming big thing on the internet, presumably bigger than social media and beyond just the internet. Metaverse would be a new virtual world that people can witness and live in with technologies like virtual reality, immersive display gears, block chain and stir detectors. There are formerly some close Metaverse exemplifications, which gives us a peep into the future. Academic studies have set up that VR can appreciatively ameliorate appreciation, knowledge retention, pupil engagement, attention span and provocation. I suppose that's commodity we all intimately understand. It's so much easier to flash back doing commodity than being told commodity.

An academy system that has a deficit of preceptors in a particular subject could retain them to educate classes from anywhere in the country. It also opens up openings for ambitious scholars to learn from people they do not have access too locally. A council pupil in Ohio could attend a forum led by a professor in Seoul. Scholars in the most remote corner of Alaska could travel NASA, the Louvre in Paris, or the Grand Egyptian Museum in Cairo. A particular instructor could run a session with a pupil in a fully different megacity without either having to leave their house. Metaverse technologies have the eventuality to transfigure education. It's passing right now, but to realize the eventuality in the times ahead will bear preceptors and policymakers to grasp the openings these technologies present.

The protestation of the COVID- 19 epidemic forced humanity to reevaluate how we educate and learn. The metaverse, a 3D digital space mixed with the real world and the virtual world, has been heralded as a trend of unborn education with great eventuality. The metaverse in education is defined, and a detailed frame of the metaverse in education is proposed, along with in- depth conversations of its features. In addition, four implicit operations of the metaverse in education are described with reasons and cases amalgamated literacy, language literacy, capability- grounded education, and inclusive education, the challenges of the metaverse for educational purposes are also presented.

EDUREFORM Pedagogical Tools

EDUREFORM is a project which has an ultimate goal to empower Indian pre-service and in-service secondary school teachers to mitigate the expected societal impact of the Fourth Industrial Revolution. To fulfill its aim, the Indian partners of the EDUREFORM consortium modified their B.Ed., M.Ed., and Ph.D. curriculums

by integrating in them new pedagogical practices to enhance teaching learning processes. The project is funded by Erasmus+ program of the European Union. The Department of Education, Shivaji University, Kolhapur is one of the Consortium partners of this project. EDUREFORM introduced 23 innovative pedagogies such as Case Study, Computational thinking, Brainwork etc. which are applicable to higher Education. (https://www.edureform.eu/)

Conclusion

Learning is a process which depends on tutoring styles used and understanding of the generalities by scholars. Colorful literacy technologies help scholars to acquire new knowledge which is a need of the time. As technology is advancing day by day, Education system also gets a positive impact and makes tutoring literacy process more interactive and fruitful. Learning Technologies are the practices that every educational institution must carry out in order to benefit its students. In other words, various learning technologies include all those practices that contribute towards the holistic development of the institution. But for that it is required to perform with utmost sincerity and honesty. It is the need of time to use various learning technologies to keep the learners active in teaching learning process.

References:

- *Brian O., Matt, Chan, & Kelvin. (October 28, 2021). "EXPLAINER: What is the metaverse and how will it work?" ABC News. Associated Press.* Archived *from the original on December 4, 2021*.
- *Newton, & Casey .(July 22, 2021). "Mark Zuckerberg is betting Facebook's future on the metaverse". The Verge.* Archived *from the original on October 25, 2021*.
- *Ritterbusch, & Georg D., Teichmann, Malte R. (2023). "Defining the metaverse: A Systematic Literature Review", IEEE Access.* ***11****: 12368*
- *12377.* doi*:*10.1109/ACCESS.2023.3241809*.* ISSN 2169-3536*.* S2CID 256562095*.*
- *Robertson, & Adi. (October 4, 2021).* "What is the metaverse, and do I have to

care?". *The Verge*.

- *Clark, & Peter A. (November 15, 2021).* "What Is the Metaverse and Why Should I Care?"
- *Zenou, & Theo. (June 30, 2022). "A novel predicted the metaverse 30 years ago"* ISSN 0190-8286. Retrieved September 7, 2022.
- *Ball, & Matthew. (July 19, 2022).* The Metaverse: And How it Will Revolutionize Everything.
- *Liveright Publishing.* ISBN 978-1-324-09204-9.
- *Brown, D. (August 30, 2021). "What is metaverse?"* The Washington Post.
- *Antin, D. (May 5, 2020).* «The Technology of the Metaverse, It›s Not Just VR». *The*
- *Startup.* Archived *from the original on October 25, 2021*. *Neiger, Chris. (October 25, 2021)*." Virtual reality is too expensive for most people—» *Business Insider.*

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2 Holistic Development of the Learner Pedagogical Dimension of NEP for the Holistic Development of the Learner

Dr. Supriya Krishna Patil[1]
Dr. Krishana Bhanudarao Patil [2]

Abstract:

NEP 2020 highlighted that a concerted national effort will be made to ensure universal access and afford opportunity to all children of the country to obtain quality holistic education–including vocational education - from pre-school to Grade twelve. NEP 2020 highlighted the changing reform of Curriculum and Pedagogy to create a holistic and well round development of the learner equipped with the 21st century skills. For that specific skill set in the form of competencies revamped by the NEP 2020. This paper highlights and overview the pedagogical perspectives in all dimension of child development for the holistic development.

Keywords: Pedagogical Dimensions, Holistic Development of the Learner

Holistic education addresses the broadest development of the whole person at the cognitive and affective levels (Singh, 1996). It aims for the fullest possible human development enabling a person to become the very best that they can be and develop fully 'those capacities that together make up a human being' (Forbes, 2003).The Delor's commission previously highlighted on the Holistic Education by addressing the Four Pillars of Education their report named as Learning the Treasure Within. These four pillars are as

1. Learning to Learn
2. Learning Live Together

1. Department of Education Shivaji University, Kolhapur
2. Centre for Distance Education Shivaji University, Kolhapur

3. Learning to Know

4. Learning to be

Overall Holistic Education is a process which focuses on preparing students to meet any challenges they may face in life and in their academic career. The most important theories behind holistic education are learning about oneself, developing health relationships and positive social behaviours, social and emotional development, resilience, and the ability to view beauty, experience transcendence and truth.

Characteristics of Holistic education are as follows:

1) It nurtures the development of the whole person (Cognitive, Affective & Psychomotor)

2) It revolves around relationships (egalitarian, open, and democratic relationships)

3) It is concerned with life experiences and practical implication of the knowledge

4) There is concern for the interior life, for the feelings, aspirations, ideas and questions that each student brings to the learning process (Joseph: 2009).

5) It related to the draw an innate potential of all the learner in all aspects as highlighted by the Swami Vivekananda.

6) It also rekindled on the Development of 3H (Head, Hand and Heart) by Mahtma Gandhi

NEP 2020 highlighted that a concerted national effort will be made to ensure universal access and afford opportunity to all children of the country to obtain quality holistic education–including vocational education - from pre-school to Grade twelve. NEP 2020 highlighted the changing reform of Curriculum and Pedagogy to create a holistic and well round development of the learner equipped with the 21st

century skills. For that specific skill set in the form of competencies revamped by the NEP 2020.

A holistic Education would aim to develop all capacities of human beings -intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner. Such an education will help develop well-rounded individuals that possess critical 21st century capacities in fields across the arts, humanities, languages, sciences, social sciences, and professional, technical, and vocational fields; an ethic of social engagement; soft skills, such as communication, discussion and debate; and rigorous specialization in a chosen field or fields (NEP:2020).

I: Pedagogical Dimension as Per the Developmental Stages of The Learner:

NCF divided the school curriculum into the four stages. This stages expected the designing pedagogues according to the stage requirement. Following directive principles highlighted through the NCF they are as follows:

1. **Foundation stage:** This stage belongs students in the age between three and eight. The pedagogy is largely play-based and emphasises nurturing, caring relationships between the Teacher and the children. There should be a balance between self-paced individual learning and group activities.

2. **Preparatory Stage:** Included students between eight to Eleven ages. Activity and discovery-based pedagogy should continue to play a big role in the Preparatory Stage classroom. But students should be encouraged, gradually, to be active participants in more formal classroom settings. Practice and other activities to develop fluency should find a place during school hours and as homework.

3. **Middle Stage:** Age between 11 to 14 students area at middle stage. Needs to reflect the engagement with theoretical concepts and the introduction of theories and conceptual frameworks specific to each form of knowledge.

The pedagogy adopted in this Stage should be a judicious balance of direct instruction as well as opportunities for exploration and inquiry. Building on prior knowledge and opportunities to learn from errors become important considerations for instructional strategies. There should be a constant focus on the methods of inquiry within each Curricular Area.

4. **Secondary stage:** Aged between 14 to 18 years old student categorized under the two phases as phase 1 of grade 9 to 10 and phase 2 of grade 11 & 12. Pedagogy at this Stage should expect more independent learning from the students. More opportunities for self-study and group work should be encouraged. Classroom interactions should also be diverse didactic, Socratic, and inquiry-based methods are all appropriate for this Stage.

II. Subject wise Pedagogical Dimension of The Learner:

Pedagogy for the Language Education:

Language Education should develop effective communication, discussion, and writing skills in these languages along with capacities for literary appreciation and creative use of language. Culture learning is a vital part of the language Education. If the Language Education aims to enable the student to immerse and participate in the linguistic heritage and culture of India, including through pedagogy which is highlighted through the participatory engagement with the rich written and oral literature of India such as stories, poems, songs, epics, plays, films. NEP focused more on the deep reading to develop the digital reading skills instead of shallow reading.

Pedagogy for the Mathematics Education:

Aim of Mathematics Education is not to develop to the foundational numeracy, mathematical thinking, and problem solving in students, but also intends to nurture joy, wonder, and curiosity and the ability to see patterns and appreciate the mathematical concepts and ideas and the most important is to minimize the fear of

mathematics. If all above aims have to achieve its necessary to select the pedagogy NEP justified the stage specific pedagogues.

a. In the Foundation stage to attain the understanding the adding, subtracting with Indian numerals, with sense of basic shapes and measurements and early mathematical thinking, these all considered as a Basic Numeracy skills pedagogy based on Play suggested by the NEP.

b. At Preparatory phase expected that student should develop procedural fluency with mathematical computational thinking. For that pedagogy based on the problem solving. For that Inquiry Based Learning, Process oriented guided inquiry will be the proper pedagogues.

c. Middle phase emphasized on the application pattern of learnt abstract concepts so application based pedagogues which emphasize on the understanding, extending & generalizing patterns of the rules.

d. Secondary phase focused on the logical reasoning to justify claims and arguments. For that pedagogy based on the development of algorithms to solve problems will be used.

Pedagogy for Science Education:

a. Foundation stage focused on the cognitive development and logical thinking through pedagogy based on the Observation using all senses as a basic science process skill.

b. In the preparatory stage expected to understand the world around us for that asking questions, observe, experiment, make connections, analyse, and make explanations of phenomena in their immediate environment (both social and physical) — thereby discovering for themselves the basics of the scientific method.

c. Middle stage is focused on the scientific exploration of concrete experiences

of the students. Students also develop the ability to communicate their understanding effectively. To enhance the above abilities Process Guided Inquiry pedagogy and Conceptual Change model based pedagogy will be beneficial.

d. In Grades 9 and 10 of the Secondary Stage, more abstract scientific theories and conceptual structures are introduced with increasing methodological sophistication in the disciplines of Biology, Chemistry, Physics, and Earth Science, and their interrelations with each other and with other subjects. For that pedagogues help to enhance the Integrated Science Process Skills helpful for the learner.

e. In Grades 11 and 12 they can engage with theories, laws, principles, concepts, and methods of inquiry specific to these disciplines through critical exploration based on the scientific inquiry pedagogy.

Pedagogy for Social Science Education:

Aims of Study of Social Science is to develop an interdisciplinary perspective rooted in disciplinary knowledge that enhances the students' capacities to understand social processes in a holistic manner.

i. Main aim of social science Education is Understand how societies function by developing awareness of how there is continuity and change in human civilisations; the interaction between nature, natural resources, and human beings; the commonness and unity in diversity among people and their practices; and the transformations over time of various social, political, and economic institutions.

ii. Develop capacities for inquiry in Social Science — sourcing, verifying, and cross validating evidence through multiple sources; creative and critical thinking; forming coherent narratives based on available evidence; forming informed opinions and demonstrating logical thinking; and proposing

meaningful responses to contemporary concerns of society based on these methods of inquiry, problem solving approach and the pedagogues which focused on the Historical Thinking Skills. For that story -telling, Role Play, Simulation, Finding patterns and continuity, Change over time, cause and effect relationship based pedagogues helpful for the learner.

III. Pedagogical Dimension according to the Domains of Development:

1. Physical Development:

It includes the sensory and motor development, gross motor skills and fine motor skills development. For that Play way method, Physical Education, Yoga Education, Meditation and Health Fitness, and hygiene based pedagogues will be helpful. Also in the curriculum we will go with the hands on activities.

2. Cognitive Development:

Cognitive development from infancy to adolescence stage is varies. In the infancy stage organize and coordinates sensory experience with physical movements for that learning through sensory organs will be helpful to organize the experiences along with their memory recognition activities. The adolescent individual thinks in diverse and complex ways with a growing capacity for working with ideas and logical analysis. This enables them to plan, solve problems, and systematically test solutions .For that Activity based, inquiry based and thought provoking pedagogues can be used

3. Language Development:

In early childhood Children learn and apply rules of syntax and of how words should be ordered. Vocabulary development increases dramatically during early childhood, and their conversational skills improve. For that Knowledge Creation, Knowledge Comprehension, Interest created, and motivational strategies useful for the language development. At the adolescence stage

Focused Group Discussion, Brain storming and Debate useful for the learner.

4. **Socio-emotional Development:**

It is related with the how children feel about themselves and how they are able to express their ideas and emotions. Pedagogues which focused on the self -understanding, self- regulation, and self –esteem useful at this stage. For this SWOC analysis, Socio metric technique, and self -analysis can be used.

5. **Moral Development:**

In the moral development student begin to express objective ideas on fairness, develop their own moral values. For that Social and emotional competencies should be enhanced through the story telling, debate, Group discussion, Critical Exploration, panel discussion, role play and Social learning by imitation of role models.

III. *Panchkosha Vikas* (Five-Fold Development) Pedagogical Dimension of the Learner:

In this annamaya kosha (physical layer), pranamaya kosha (life force energy layer), manomaya kosha (mind layer), vijnanamaya kosha (intellectual layer), and anandamaya kosha (inner self). Each layer exhibits certain distinct characteristics. The holistic development of a child takes into account the nurturing and nourishment of these five layers. To develop physical layer are pedagogues suggested by the NEP are traditional games, and adequate exercise, as well as yoga asanas (at the appropriate ages), which build both gross and fine motor skills. A wide variety of stories, songs, lullabies, poems, and prayers enable children to not only develop a love for their cultural context, but also provide value-based insights. This contributes to language development beginning with listening or shravana, as well as the ability to focus and concentrate. The senses, indriyas, are to be sharpened to be able to experience the world around in all its beauty and wonder.

Seva integrated into everyday life enables the experience of joy of relationships along with being a part of and doing good for one's community which highlights the social and emotional intelligence development.

At the end NEP 2020 and NCF 2022 worked on the gap between the current state of learning outcomes and give the inputs what is required must be bridged through undertaking major reforms that bring the highest quality, equity, and integrity into the system, from early childhood care and education through higher education through holistic development.

References:

- Eliza Rybska & Maciej Błaszak(2020). Holistic education – a model based on three pillars from cognitive science. An example from science education*: Problemy Wczesnej Edukacji / Issues In Early Education: 2(49), 45-58*
- John, P.J.(2017). Holistic Approach in Edcuation:; An Overview. *International Journal of Research in Social Sciences.* Vol. 7 Issue 4, 1-8
- Mohmmd Javad Liaghatdar, Hasan Ali Nasrabadi, Ebrahim Jafari. (2012) . Holistic Education:
- An Approach for 21 Century. *International Education Studies*: Vol.5 No. 2, 178-186.
- National Policy on Education (2020).: Ministry of Human Development: Government of India
- National Curriculum Framework for Teaher Education. (2023). NCERT: New Delhi

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3 21St Century Andragogy Skills For The Numismatics Study

Miss. Afsana Harun Maneri [1],
Mrs. (Dr) P.S. Patankar [2]

Abstract

Many arguments related the education of children and adults have existed for a long time. Methodology for studying and teaching is an educational tradition passed down from generation to generation. In that is a change between schooling and adult (distance)education. Two different groups are assumed to be learning under the same philosophy. However, in 1970, Malcolm Knowles developed a well-known concept called andragogy to meet the specific educational needs of adult students, and this concept has been adopted by teachers in various disciplines in the education sector around the world. Andragogy as stated by Malcolm Knowles is established on 6 assumptions- (1) the need to experience, (2) self-concept of the learner's, (3) the part of the learn- ears' experiences, (4) readiness to learn, (5) orientation to learning, and (6) motivation. This paper presented information about the application of 21st century Andragogy skills for Numismatics study.

21st century Andragogy skills- While the particular skills considered to be "21st century skills" may be explained, classified, and resolute differently from character to character, area to area, or academic to academic, the term does reflect a general. Knowledge, work habits, skills and character traits are briefly explained in 3 categories of 21st century skills.: ***A) Learning skills****- i. Critical thinking, ii. Creativity, iii. Collaboration,*

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iv. Communication, ***B) Life/ Personal skills*** *- i. Flexibility, ii. Leadership, iii. Initiative, iv. Productivity, v. social skills and C****) Literacy skills****- i. Information literacy, ii. Media literacy, iii. Technology literacy etc.*

Objectives of paper

a. To explain the purpose of Numismatics study.

b. To analyse the different 21st Century skills.

c. To explain the application of 21st Century skills of Andragogy for Numismatics study.

Key words: Andragogy, 21st Century Skills, Numismatics Study, etc.

Introduction

Now we are in the 21st century and everyone has a goal and to fulfil it they have to face many challenges. Education plays an important role in it and Addressing challenges through education requires different skills and it is through it that the future generation is formed. Many arguments related the education of children and adults have existed for a long time. Methodology for studying and teaching is an educational tradition passed down from generation to generation. In that is a change among child and adult education. Two different groups are assumed to be learning under the same philosophy. However, in 1970, Malcolm Knowles developed a well-known concept called Andragogy to meet the specific educational needs of adult students, and this concept has been adopted by teachers in various disciplines in the education sector around the world.

Andragogy as stated by Malcolm Knowles is based on six assumptions

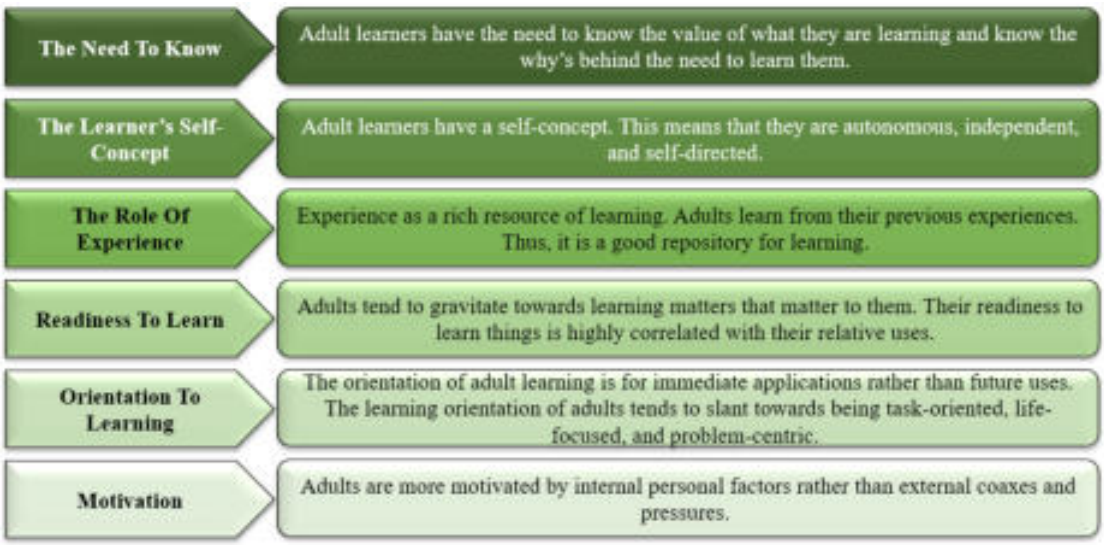

Figure: Knowles' Six Assumptions (The Basic Andragogical Principles)

21st century Andragogy skills- While the particular skills considered to be "21st century skills" may be explained, classified, and resolute differently from character to character, area to area, or academic to academic, the term does reflect a general. Knowledge, work habits, skills and character traits are briefly explained in 3 categories of 21st century skills.: **A) Learning skills**- 4Cs Critical thinking, Creativity, Collaboration and Communication, **B) Life/ Personal skills** - i. Flexibility, ii. Leadership, iii. Initiative, iv. Productivity, v. social skills and C**) Literacy skills**- i. Information literacy, ii. Media literacy, iii. Technology literacy etc.

Objectives of paper

a. To explain the purpose of Numismatics study.

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Methodology of This Research Paper

For this research paper used secondary sources, this research paper various reference books, articles, internet sources like secondary sources have been used and content analysis technique has been used.

Andragogy

Andragogy means "The understanding of the science and practice of adult learning."

Definition: "The theory, methods, and activities involved in teaching adult learners." - https://dictionary.cambridge.org

"The art or science of teaching adults." - https://www.merriam-webster.com

Andragogy is "The art and science of helping adults learn, in contrast to pedagogy as the art and science of teaching children"- Knowles (1980, p.43) define.

Through Andragogy, teachers can involve the students in the planning of educational goals, the principles for this work and create the necessary instructions to fulfil their purpose. Also, they work together to plan appropriate activities for different activities, problem solving, communication improvement between students and teachers, instructional materials and thus, it helps in building trust among the students and teachers develop self-awareness in students.

Andragogy is applied in many contexts, which has changed the educational philosophy of teachers all over the world. Considering the present educational requirements, educational approaches to teaching adult students are declining. They want to be actively engaged in the learning process to create their individual knowledge, to be aware of studying and to spread what they have studied to the present situation rather than one-way learning from the teacher. Educators, as well as all worldwide educational systems, must provide opportunities for all students, both children and adults, to actively participate in learner-centred educational learning.

Numismatics study

Numismatics is considered a subsidiary science or science. Through this helps to learn archaeology or ancient history effectively. Numismatics is considered as important evidence for understanding the history of any region of coins and related objects.

Numismatics is not only concerned with the physical aspects of coins, but it is convenient to study chronologically through the fact that currency is considered as a historical object and source of History. Students get information about monetary system, monetary policy, trade, economy, etc. through the study of Numismatics.

Numismatics is recognized as an important evidentiary discipline within archaeology in Indian historical studies. Numismatics is important for the study and conservation of our historical cultural heritage. Through numismatics, the students get information about the monetary system along with the trade and transactions of different countries, from which the feeling of preserving the historical heritage of our country grows in the minds of the students. Therefore, Numismatics has been included in the curriculum by the government at different educational levels.

21st century skill

21st century skill is an extensive set of knowledge, a different skill, work manners, and attributes of personality, and is trust by teacher, school reformers, college professors, employers, and others. To succeed in today's world, it's important to work critically especially in college programs and contemporary careers and workplaces. That means, 21st century skills can be incorporated into all academic disciplines, academic careers, and the student's lifelong success.

21st century Andragogy skills- Below is a brief explanation of the three categories of 21st century skills.

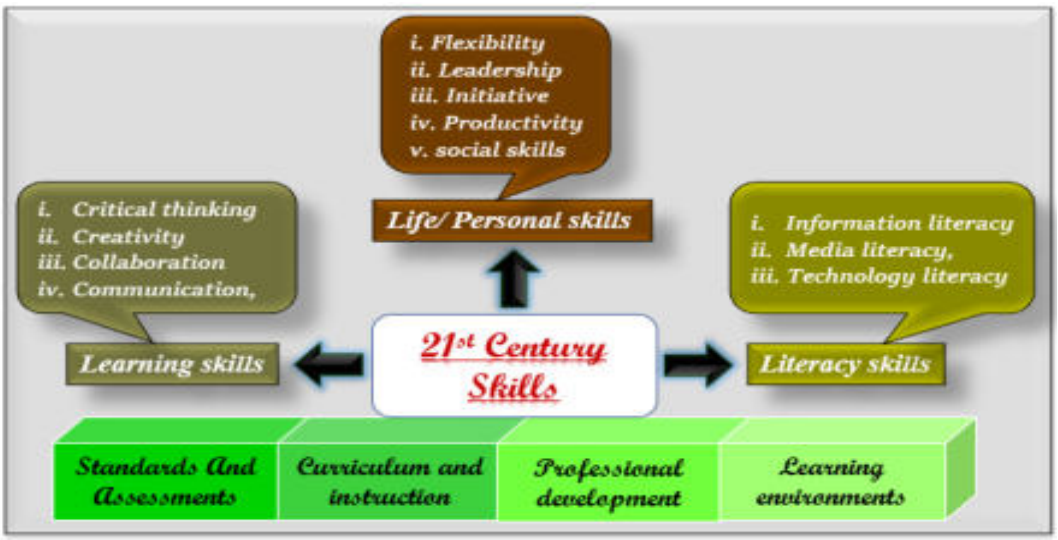


Figure: P21's Framework for 21st Century Learning.

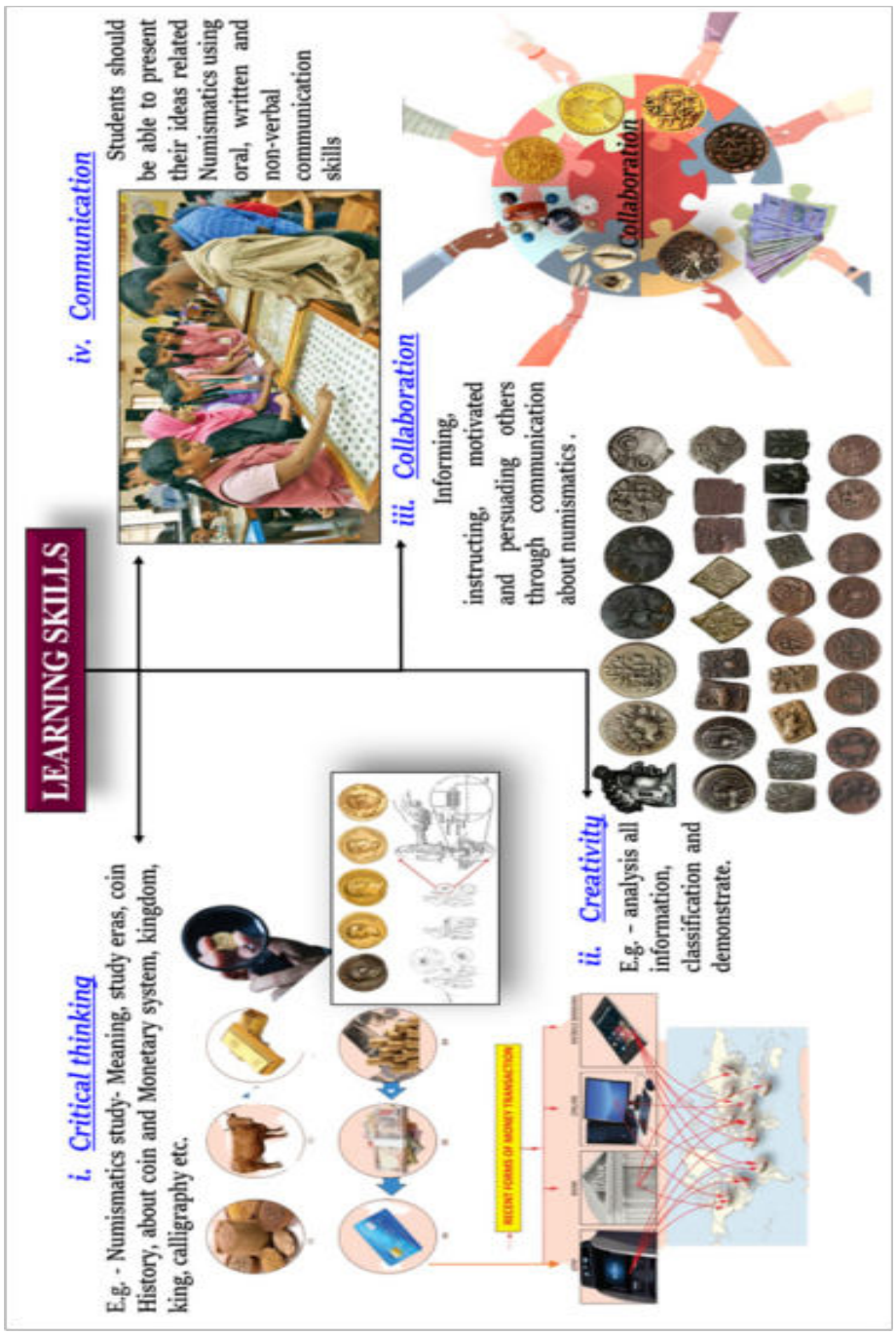
Reasons for Teaching 21st Century Skills to 21st Century Learners -

Because, 21st century skills are constantly being ready for any change, finding and using various information, creating tools to solve problems in daily life, developing character, developing competitive attitude, encouraging and motivating innovation.

The Application of 21st Century Skills of Andragogy for Numismatics Study

21st Century Learning Skills (4 C's)

The application of 21st Century Learning Skills (4 C's) of Andragogy for Numismatics study



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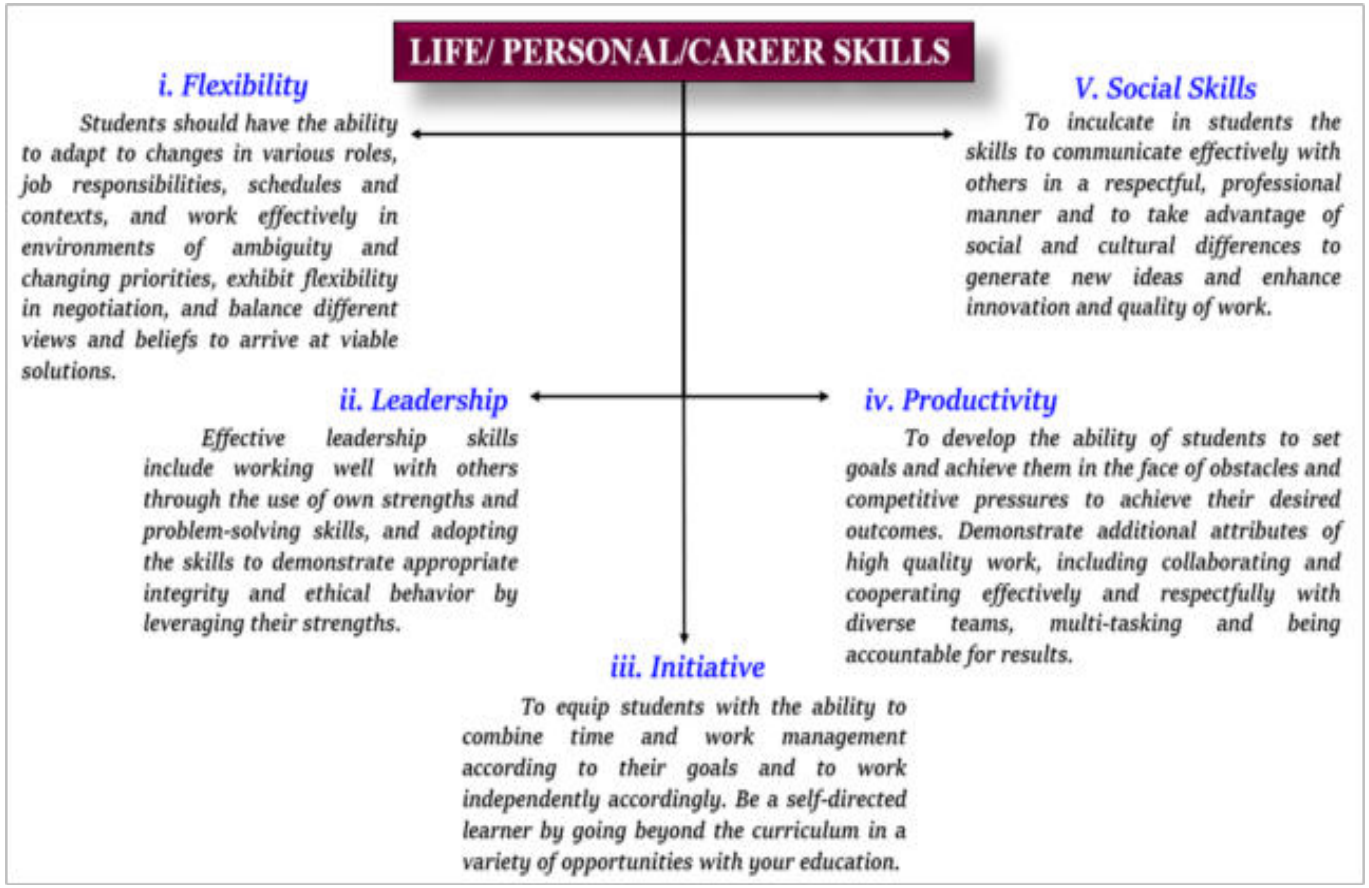
21st Century Life/ Personal/Career Skills



21st Century Literacy Skills (ITM)

The application of 21st Century Literacy Skills (ITM) of Andragogy for Numismatics study

Students demonstrate awareness and application of knowledge of ethical/legal issues when using any information related to Numismatics.

LITERACY SKILLS

i. Information Literacy

Acquiring, analyzing and evaluating appropriate numismatic information, Numismatic images, working with awareness of reliable sources of information. E.g.

https://www.todywallaauctions.com ,
https://www.zeno.ru ,
https://bombayauctions.com ,
https://www.rbi.org.in ,
https://www.baldwin.co.uk/auctions.

ii. Media Literacy

Students create media using Numismatics specific methods, using media production tools most appropriate in a multi-cultural environment, through which they disseminate Numismatic information. E.g. Internet, Radio, Magazines, TV, News Paper, Etc.

iii. Technology Literacy

Students use digital technologies to develop an e-content module on Numismatics study. Make video, create documentary on different coinage etc. for all educational level.

http://epgp.inflibnet.ac.in

BEST PRACTICES

Alex Gitterman, (2004), 'Interactive Andragogy: Principles, Methods, and Skills'

Reischmann, J., (2004), 'Andragogy. History, Meaning, Context, Function'

Chan, S., (2010), 'Applications of Andragogy in Multi-Disciplined Teaching and Learning'

Jim Allen Rolf van der Velden (2012), 'Skills for the 21st century: Implications for education'

Panda, R., (2014), 'Higher Education and Andragogy'

Blackley, S. and Sheffiel, R., (2015),' Digital andragogy: A richer blend of initial teacher education in the 21st century'

Ferreira, D. and Maclea, G., (2017), 'Andragogy in the 21st century: Applying the Assumptions of Adult Learning Online'

Syaifar, B., (2017), 'Application of Concept and Andragogy for Education and Training of Civil Servant'

Charungkaittiku, S., (2018),' Applying an Applying an Andragogical Approach to Foster Lifelong Self- Directed Learning in the 21st Century Higher Education Classroom Settings'

Bouchrika, I., (2022),'The Andragogy Approach: Knowles' Adult Learning Theory Principles'

Mukherjee, L. R., (2022), 'Andragogy in Teaching English for Medical Purpose'

Stauffer, B., (2022),'what are the 21st century skills?'

Conclusion

As our world is moving towards globalization. For that 21st century education makes important references to the skills and technologies that will position today's students to succeed in a world that requires more helpful for critical thinking, courage, persistence, and self-reliance. 21st century education emphasizes creativity, critical thinking, collaboration, cooperation, and communication/interaction, and tremendous advances in information and communication technology make a wealth of information easily available to students at home. There is a need for effective study for the holistic development of students and for this many strategies should be used by teachers. A teacher should have knowledge of various techniques and skills to convey a specific or complex, difficult topic to students. 21st century skills place more emphasis on sharing and using information in an appropriate way. The teacher should be a facilitator and inspirer to study and motivate and empower the students.

For that, what skills do every student need in the 21st century? - **A) Learning skills**- 4Cs- Critical thinking, Creativity, Collaboration and. Communication, **B) Life/ Personal skills** - i. Flexibility, ii. Leadership, iii. Initiative, iv. Productivity, v. social skills and C**) Literacy skills**- Information, Media and Technology literacy etc. these skills are very important for the students. Through these skills students learn will be Numismatics and spread our national heritage, Preserve and promotion of our national historical heritage.

References

Alex Gitterman, (2004), '*Interactive Andragogy: Principles, Methods, and Skills*'

Blackley, S. and Sheffiel, R., (2015),' *Digital andragogy: A richer blend of initial teacher education in the 21st century*'

Bouchrika, I., (2022),*'The Andragogy Approach: Knowles' Adult Learning Theory Principles'*

Chan, S., (2010), '*Applications of Andragogy in Multi-Disciplined Teaching and Learning'*

Charungkaittiku, S., (2018),' *Applying an Applying an Andragogical Approach to Foster Lifelong Self- Directed Learning in the 21st Century Higher Education Classroom Settings*'

Ferreira, D. and Maclea, G., (2017), *'Andragogy in the 21st century: Applying the Assumptions of Adult Learning Online'*

Jim Allen Rolf van der Velden (2012), *'Skills for the 21st century: Implications for education'*

Majali, S., (2020), '*What Is the Difference Between Barter and Currency Systems?*' Retrieved from: https://www.sahelmajaliblog.com/what-is-the-difference-between-barter-and-currency-systems/ 25.7.21, 4.56 p.m.

Menon, S., (2016), *'Rare and antique coins become new investment as their prices surge',* Retrieved from: https://economictimes.indiatimes.com, 24.07.2019, 6:55 a.m.

Mukherjee, L. R., (2022), '*Andragogy in Teaching English for Medical Purpose*'

Panda, R., (2014), '*Higher Education and Andragogy*'

Reischmann, J., (2004), *'Andragogy. History, Meaning, Context, Function'*

Stauffer, B., (2022),*'what are the 21st century skills?'*

Syaifar, B., (2017), *'Application of Concept and Andragogy for Education and Training of Civil Servant*'

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4 Multidisciplinary Approach for Holistic Development of the Learner: Meta-Analysis of Indian Knowledge System

Dr Pratibha S. Patankar

Abstract

Indian Knowledge System (IKS) means Indigenous source of knowledge which was achieved through generations by Indian Society which includes Ancient Indian Education . There are many ways which constitute IKS. One approach represents the knowledge corpus, such as knowledge from different Darshanas. another approach is to select phrases from Indian Psychology, Indian arts , Dance , Education and put them to gather to construct IKS

Indian education is well known and biggest education system in the world. In ancient education the well known Universities like Takshashila, Nalanda, Vallabhi focus on all round development of the learner. In mediaeval period Madarasa and Maqtabs focused buildings student's religious knowledge and learners of the future. In Modern Education, World class Universities emphasize on Holistic Education through Multidisciplinary approach.

In this paper researcher has explored how ancient education had emphasized on Holistic development and Multidisciplinary approach in which the Meta-analysis of six Vedic Darshanas and two Non –Vedic Darshanas and views of Indian Philosophers regarding the aims of Education related to Holistic and Multidisciplinary approach were explored from the secondary sources which are available in Books, Internet, Doctoral Thesis , Projects etc. which are validated from the experts and conclusions are drawn as reflected in National Education Policy 2020

Prof. and Head Department of Education, Shivaji University, Kolhapur

Key words : Indian Knowledge System , Darshanas , Vedic period, Non-vedic period , Meta- analysis, Indian education , National Education policy, Holistic development, Multidiscilinary approach

Introduction

Education conscious effort and is a purposeful activity which intend to bring certain positive changes in the learner Education means for all- round development of the learners to lead most satisfying life in the environment where they live..

Today is a world competition, digital technology, so students should have to perform different skills, abilities, competencies which are necessary to perform multiple activities for which their holistic development is important.

Indian education is well known and biggest education system in the world. During ancient education the well known Universities like Takshashila, Nalanda, Vallabhi focus on all round development of the learner. In mediaeval period Madarasa and Maqtabs focused buildings students religious and learners of the future. In Modern Education, world class universities emphasize on Holistic Education through Multidisciplinary approach.

Holistic Education-Holistic Development is nothing but all- round development of the learner. Holistic Education is an approach for 21st century. It focuses on wholeness. This is an eclectic and inclusive movements which gives balanced development of the learner well as it improves relationship with other individual and environment.

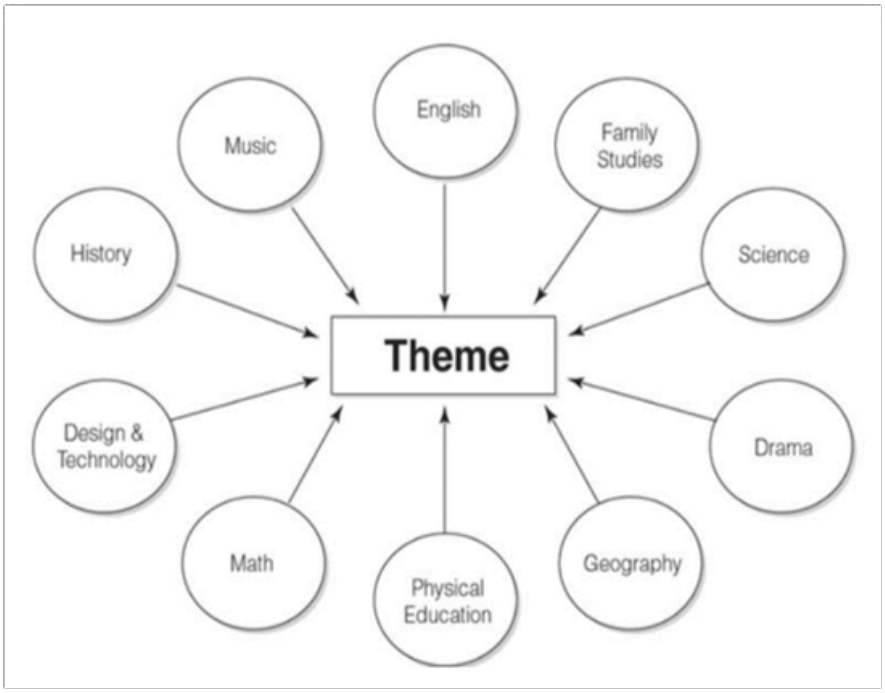
Holistic development focuses on overall growth of the learner in various manner such as social, economical, physical, mental, intellectual growth also it promotes self-confidence, self awareness, good citizenship, sense of responsibilities in almost all work. In the holistic development students should think of as a whole: Body, Mind and Spirit. It is responsibility of parents and teachers to nurture the whole of the child.

Source:https://www.thehansindia.com/hans/young-hans/future-education-should-focus-on-holistic-development-of-students-740388

Figure No.1.Holistic Development of the Learner

Multidisciplinary approach:

This approach brings different disciplines together. It bring interconnectedness of different field/subjects. It gives more comprehensiveness. It encourage teacher to make connections across many disciplines rather than teaching subjects in segregassion /isolation. This approach enables students to get academic and develop abilities from many academic fields and prepare them for real world problem solving and promotes teamwork.



https://www.linkedin.com/pulse/multidisciplinary-approach-holistic-learning-pardhasaradhi-madasu

Figure No.2.Multidisciplinary Approach to Education

Multidisciplinary approach for holistic development –

Holistic and multidisciplinary approach help to develop all capacities of human being as intellectual, aesthetic, social, physical, emotional and moral. Such type of education will develop well rounded individual that possess Critical 21st Century skills /capacities in all fields such as humanities, languages sciences, social sciences, technical and vocational fields etc.

India has long tradition of holistic and multidisciplinary learning from Universities of Takshashila, Nalanda. Ancient Indian literary works described education as knowledge of 64 arts which includes arts scientific fields, vocational, professional,

soft skills etc. Thus, holistic multidisciplinary approach described beautifully in the past or ancient India which is needed to lead India into 21st Century and Fourth Industrial Revolution.

The structure of curriculum would be creative and flexible combinations of disciplines for study which enable student to offer multiple entry and exit points removing water tight boundaries among disciplines.

To attain Holistic and Multidisciplinary education, there should be –

- Flexible and innovative curricula
- Credit based courses
- Project in the area of community engagement, environmental education, value education based education etc.

The structure and lengths of programmes are very well defined in NEP 2020.

Multidisciplinary approach and holistic development is not a new phenomena to Indian Education System but we have to rethink in terms of todays education system as emphasized in NEP ,2020.

Traditional University education is much fragmented, there is no interaction, transfer of knowledge and across learning among the disciplines. Multidisciplinary approach breakdown the bonding among the disciplines, students can take up course from different disciplines, so the depth and breadth of University Education very much enhances. Mostly the world class Universities are multidisciplinary which brings holistic development.

Scope of the study – The nature of Holistic development as explained by Swami Vivekanada , Mahatma Gandhi , Rabindranath Tagore , Yogi Arbindo and Darsanas (Indian schools of Philosophy) were studied .The study is documentary analysis where secondary sources of knowledge studied

Methodology of the Study

The Meta-analysis of six Vedic Darshanas and two Non –Vedic Darshanas and views of Indian Philosophers regarding the aims of Education related to Holistic and Multidisciplinary approach were explored from the secondary sources which are available in Books, Internet, Doctoral Thesis , Projects etc. and validated from the experts

2. Indian Knowledge System (IKS)

Indian Knowledge System means Indigenous source of knowledge which was achieved through generations by Indian Society which includes Ancient Indian Education . There are many ways which constitute IKS. One approach represents the knowledge corpus, such as knowledge from different Darshanas. another approach is to select phrases from Indian Psychology, Indian arts , Dance , Education and put them to gather to construct IKS

In this paper the approach at different Darshanas is selected in which how holistic and multidisciplinary education is reflected in Darshanas is explored. Also the views of Great Indian Philosophers and phrases related to Holistic and Multidisciplinary education are stated.

Views of Indian philosopher on Holistic Development and Multidisciplinary Education

Swami Vivekananda- Education is incomplete without teaching of aesthetics or fine arts. Education is not the amount information that puts into the brain which remain undigested in life. We must have life building, man making, character making education.

According to him the aim of education or end of education is man making. He defines education as manifestation of the perfection already in man. The aim of the education is to manifest in any lives the perfection., which is very nature of inner self.

Mahatma Gandhi – According to Gandhi writing in Harijan in 1937, by education; I mean all round drawing out the best in child and man body, mind and spirit. The ultimate aim of education is character development. According to him morality and spirituality are necessary for such development. . He focused mainly on domains of human life as physical education, vital education and mental education

Rabindranath Tagore – The conception of education by Rabindranath Tagore was very visionary. His philosophy of education aims at preserving harmony with social and natural environment. His vision of education was based on the belief that education should not limited to the acquisition of knowledge only but should include the whole process the development of Development. According to Tagore education should be process of self-discovery. His approach towards education was holistic. It should help students for development their physical, emotional and intellectual capabilities. Education should not be limited to the class room setting but extend beyond it in the natural environment for holistic development

Yogi Aurobindo – He always had great stress on education which brings all- round development of the learner through body, mind and soul. He focused on spiritual growth and integrated education

From the time of Rigveda onwards the ancient Education system evolved over the period and focused on holistic development of the learner taking care of both inner and outer self

Views of Different Darsanas on Holistic Development and Multidisciplinary Education

Vedic Education – The ancient system of Vedic Education was based on the Vedas, therefore named as Vedic Educational System. It emphasized holistic development. Its aim was to nurture the physical, mental, emotional and spiritual aspects of students. Along with academic subjects' students were taught ethics, morality, character development. The ancient Indian Education System embodied a holistic

approach to education. The primary aim of education was developing wholesome personality, complete realization of self-realization.

Education in Post - Vedic Period – The aim of Post -Vedic Education was to attain salvation and realization of the truth.

Indian Knowledge system provide a true world view and vision for life and help us to resolve the issue that we face in our life through holistic education . They are also known as Darshanas. They are visions for life.

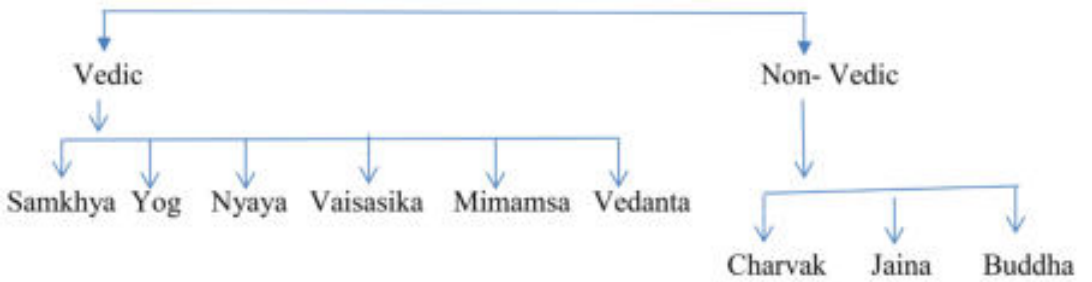


Diagram No.1.Different Darshanas of Indian Philosophy

Vedic schools of Philosophy

These schools have common goal to answer questions such as Who am I ? What is the and process of final liberation? though they have common goal they differ in approach to reach the ultimate goal of life that is liberation of self . Samkhya and Yog darsanas focus on understanding of the evolution of nature that leads to the liberation , Nyaya and Vaisasika darsanas focused on importance of obtaining the right knowledge of the self in the journey of getting the liberation. Mimamsa gives the importance of ritualistic part called Karm Kand for liberation of self while Vedanta emphasized on getting the knowledge of self experience

The ultimate aim of Vedic System of Education was Knowledge about Truth for Moksha which means release into the state of Freedom

Non vedic schools –

Jain Philosophy – According to Jain Philosophy, soul is Jiva which is infinite which is under the impact of Karma . Karma is with some experiences which may be pleasant , painful or neutral through the life . According to Jain Philosophy liberation of self means free from karma

Buddha school of Philosophy – The ultimate goal of Buddhist philosophy is to reach to Nirvana . It is state which is free from desires and passions

The following figure shows the ultimate aim of life of Human being reflected in Indian Knowledge which was achieved through Education in the form of Personality development.

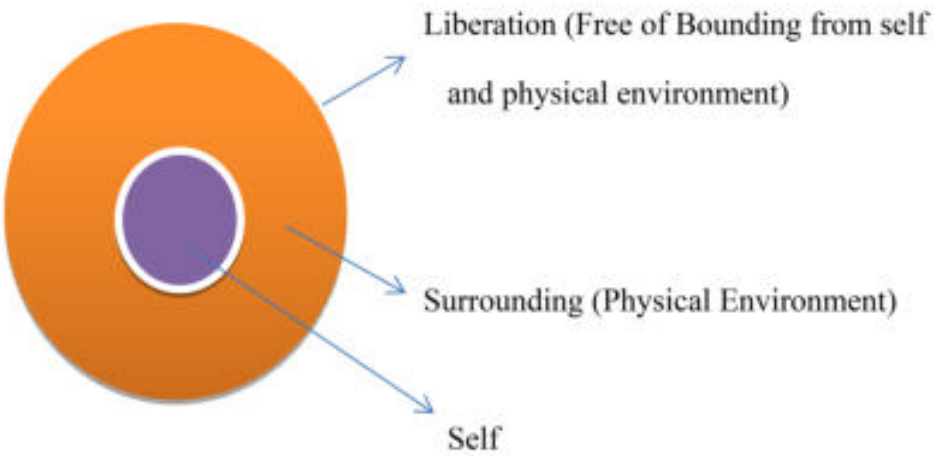


Figure No.3. Personality Development of the individual through education in Ancient India

Conclusions-

1) Holistic and Multidisciplinary approach is a educational approach that allows pupils to learn and explore different courses or curricula from different areas of study

2) Holistic and Multidisciplinary approach in education is indispensable for developing all round development of learner that possesses many capacities , skills and values

3) Qualitative development of education is to be considered in a holistic and Multidisciplinary approach

4) National Education Policy 2020 does not agree for separation between Arts and Sciences , curricular and co -curricular activities , vocational and arts disciplines

5) This policy advocated creative and multidisciplinary curriculum that include humanities , languages , culture , sports and fitness , health and well-being , arts and crafts , in addition to science and mathematics

6) It reflects the true essence of meaning of Education according to Swami Vivekananda, Mahatma Gandhi, Rabindranath Tagore, Yogi Arbindo and Darshanas (Indian schools of Philosophy) were studied. The study is documentary analysis where secondary sources of knowledge studied. This approach has its roots in ancient India which was regarded as most prosperous and organized education system across the world

7) Our present education system has a lot to learn from ancient education

8) Our present universities needs to be like ancient universities which address multidisciplinary approach and holistic development which is instrumental in developing integrated individual

Thus, Multidisciplinary approach and holistic development is a way to practically see the world , Indian way of learning, acquiring knowledge has been liberal and multidisciplinary . This is India's contribution to the world. Education in India has legacy of being pragmatic, achievable and complementary to life, this approach will play significant role in shaping the future of higher education in our country

References

- B.Mahadevan,Vinayak Rajat Bhat and Nagendra Pavana R.N.(2023). Indian Knowledge System.PHI Learning Private Limited.Delhi.
- https://www.linkedin.com/pulse/multidisciplinary-approach-holistic-learning-pardhasaradhi-madasu
- https://www.google.com/search?q=Multidisciplinary+approach+in+NEP+2020&rlz=1C1GCEU_enIN1003IN1003&oq=multidisciplinary+&aqs=chrome.0.69i59l2j69i57j69i59j0i512j69i60l3.4817j0j4&sourceid=chrome&ie=UTF-8
- https://www.education.gov.in/nep/multidisciplinary-holistic-education#:~:text=A%20multidisciplinary%20education%2C%20as%20envisaged,creative%20combinations%20of%20various%20disciplines.
- https://blog.teachmint.com/nep-2020-a-multidisciplinary-approach-to-education-in-india/
- https://ipsrsolutions.com/academix/exploring-disciplinary-approaches-in-nep-2020-multidisciplinary-interdisciplinary-and-transdisciplinary-models-in-heis
- https://iksindia.org/
- https://www.education.gov.in/nep/indian-knowledge-systems
- https://fdp-si.aicte-india.org/Teaching%20Material%20M8/IKS_Lecture2_Introduction_to_IKS.pdf

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5 E-CONTENT MODULE FOR HOLISTIC DEVELOPMENT

Miss. Afsana Harun Maneri[1]
Dr. Pratibha S. Patankar[2]

Abstract

In today's rapidly evolving landscape of higher education, the integration of technology has become indispensable for enriching pedagogy and elevating student engagement. This research is centred around the creation of an e-content module specifically designed for teaching and learning numismatics, the study of coins and currency. The primary objective is to assess how this innovative approach can profoundly contribute to the Holistic development of higher education students. By offering a thorough exploration of historical, economic, cultural, and technological facets, the module aspires to enrich the overall learning experiences and outcomes, thus setting the stage for a holistic educational journey.

This research paper explores the creation and implementation of an innovative E-Content Module designed for teaching numismatics in higher education. The primary goal is to evaluate how this module, which incorporates interactive elements, multimedia resources, and various pedagogical strategies, contributes to the Holistic development, of students. In contemporary higher education, achieving holistic development, which encompasses academic, emotional, ethical, and social dimensions, is of utmost importance.

The research methodology involves the development and deployment of the E-Content Module, establishing a dynamic environment for Numismatics education. Undergraduate and postgraduate students actively participate in the study, with their experiences, comprehension, and growth assessed across multiple dimensions.

The key findings reveal that the E-Content Module significantly enhances students' comprehension of numismatics while fostering critical thinking, creativity, and

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collaborative skills. This digitized approach effectively bridges the historical, economic, cultural, and technological aspects of numismatics, thereby enhancing the overall learning experience.

The implications of this research are twofold. Firstly, it underscores the potential of technology-enhanced education in advancing comprehensive development, extending beyond academic knowledge to encompass skills and values crucial for a well-rounded education. Secondly, it emphasizes the value of interdisciplinary learning, as numismatics effectively connects various fields, thereby promoting a comprehensive understanding of diverse subjects.

This research contributes to the ongoing discussion surrounding innovative pedagogical approaches in higher education. It provides valuable insights into the successful amalgamation of technology and a multidisciplinary approach to enrich the holistic development of students.

Objectives of this paper*:*

1. *To develop and validate an E-Content Module on the subject of Numismatics and its application.*
2. *To measure the effectiveness of the Numismatics e-content module for Holistic Development.*

Key words*:* E-Content Module of Numismatics, Teaching and Learning Numismatics, Holistic Development, Students of Higher Education Level

Introduction

In today's evolving higher education landscape, the importance of holistic development has gained unprecedented significance. Mere academic prowess is no longer sufficient to meet the demands of the 21st century. Instead, there is a growing need for individuals who not only excel in their academic pursuits but also exhibit emotional intelligence, uphold ethical values, and demonstrate social competence.

Within this educational context, we introduce Numismatics - the study of coins and currency - a discipline that transcends the confines of economics and history. Numismatics provides students with a unique perspective, a multidimensional lens

through which they can explore a wide array of subjects, ranging from art, culture, and technology to ethics. It serves as a portal to understanding the world through the narratives etched into these often-overlooked, small metallic forms.

This research embarks on a voyage aimed at creating an innovative E-Content Module tailored for teaching Numismatics at the higher education level. This module transcends the conventional approach of imparting mere facts. Instead, it is designed to craft an immersive and comprehensive learning experience, seamlessly blending state-of-the-art technology with the timeless wisdom encapsulated in numismatic studies. Its primary objective is to nurture students who not only achieve academic excellence but also evolve into individuals enriched with emotional intelligence, deep-rooted ethical values, and a profound sense of social responsibility.

Progress through the ensuing sections, we will delve into the critical importance of holistic development within higher education and the unique role that Numismatics can play as a transformative agent. This E-Content Module is a bridge, one that spans across the academic, emotional, ethical, and social dimensions, thus moulding students not solely for examination halls but for the intricate tapestry of life

This journey is through the past and present as we uncover the transformative potential of Numismatics in fostering holistic development in higher education.

Objectives of this paper:

1. To develop and validate an E-Content Module on the subject of Numismatics and its application.

2. To measure the effectiveness of the Numismatics e-content module for Holistic Development.

Research Questions:

1. How can a Numismatics E-Content Module be effectively designed and developed for teaching Numismatics at the higher education level?

2. What is the impact of the E-Content Module on students' comprehension of Numismatics?

3. How does the Numismatics E-Content Module influence students' critical thinking, creativity, and collaborative skills?

4. To what extent does the Numismatics E-Content Module contribute to the holistic development of students, including academic, emotional, ethical, and social dimensions?

Review of Related Researches and Literature

Nachimuthu, K. (2012), "Need of E-Content Developments in Education" Education Today, An International Journal of Education & Humanities,

Agarwal, H. and Pandey, G. N., (2013), "Impact of E-Learning in Education",

Dhavale, S. M. and et.al. (2014),"Development of E-Content for Effective Teaching and Learning".

Hubackova, S. (2015), 'History and Perspectives of eLearning'.

Bezhovski, Z. and Poorani, S., (2016), "The Evolution of E-Learning and New Trends ", Information and Knowledge Management.

Bhatt, D. & Maniar, A., (2017), 'Research Trends in the area of e-content Development and Validation in Higher Education'.

Dr. Mishra, U., Dr. Patel, S., and Ms. Doshi, K., (2017), "E-Content: An Effective Tool for Teaching and Learning in A Contemporary Education System".

Manikandan, P. and Dr. Dhanalakshmi, K., (2017), 'Effective e-content development procedures and its importance for self-paced learning.

Albina, A.P. (2018) Effectiveness of E-content in Teaching of Mathematics Education among B.Ed. Student-teachers.

Singaravelu, G. (2019), "E-Content Development: future and provocation".

Prabakaran, B. and Dr. Ar. Saravanakumar, (2020), "An Interactive E-Content Module for Learning Mathematics -A Single Group Experiment".

Sindhu, R. & Verma, P., (2020), 'Currency Recognition System Using Image Processing'.

Reecha Jrall and DR. kiran, (2022), "Development of E-content Module and Measuring Effectiveness in the Topic Understanding ICT and its Application at B. Ed Level.

The scope encompasses several key areas

1. **E-Content Module Development:** This research will encompass the design, creation, and deployment of the E-Content Module tailored for Numismatics. The module is envisioned to seamlessly integrate interactive elements, multimedia resources, and innovative pedagogical strategies to facilitate engaging and comprehensive learning experiences.

2. **Higher Education Context:** The research is centred within the sphere of higher education, specifically targeting both undergraduate (UG) and postgraduate (PG) students. The objective is to address the distinctive needs and expectations of students at this advanced academic level.

3. **Holistic Development**: A primary objective of this research is to assess how the E-Content Module contributes to holistic development among students. This holistic development encompasses various dimensions, including the academic, emotional, ethical, and social aspects. The aim is to prepare students for multifaceted success and competence across various facets of life.

4. **Multidisciplinary Approach:** The E-Content Module's design and methodology are intended to encourage interdisciplinary learning. This approach bridges historical, economic, cultural, and technological dimensions

of Numismatics, creating an educational experience that enriches students' understanding and engagement.

In essence, this research delves into the development and deployment of an innovative E-Content Module designed to enhance the teaching and learning of numismatics, particularly within the context of higher education. This module is strategically tailored to foster holistic development among undergraduate and postgraduate students, providing them with a well-rounded foundation that extends beyond conventional academic knowledge. The integration of a multidisciplinary approach into the module design further enriches the educational journey, contributing to a deeper understanding of the subject matter and its interconnectedness with diverse fields of knowledge.

This framework informs the research in the following key ways:

1. **Comprehensive Learning:** The theory proposes that education should encompass a diverse range of dimensions, from academic knowledge to emotional intelligence, ethical values, and social competence. The research is centred on the development of an E-Content Module for Numismatics, which seeks to provide students with a comprehensive and immersive learning experience. It acknowledges the multifaceted nature of education and aligns with the principles of holistic development.

2. **Interdisciplinary Approach**: Holistic development theory advocates for interdisciplinary learning, encouraging the integration of multiple disciplines to offer a more comprehensive understanding of subjects. The E-Content Module for Numismatics is designed to bridge historical, economic, cultural, and technological dimensions, aligning with the theory's emphasis on interconnected knowledge and the significance of interdisciplinary learning.

3. **Emotional and Social Growth:** The theory underscores the importance of

emotional and social growth, recognizing that students should not only acquire academic knowledge but also develop emotional intelligence, empathy, and social skills. The E-Content Module is structured to provide experiences that extend beyond the academic realm, aiming to foster students' emotional and social development.

4. **Ethical Values and Well-being:** Holistic development theory places value on ethical behaviour and well-being, including both physical and mental aspects. The E-Content Module takes these dimensions into account, with a particular focus on ethical considerations in the study of Numismatics and a genuine concern for the well-being of students.

5. **Lifelong Learning:** The theory promotes the concept that learning is a lifelong journey that goes beyond formal education. The E-Content Module is designed to ignite curiosity and a passion for lifelong learning, making the study of Numismatics an engaging and enduring experience.

In summary, the research is underpinned by holistic development theory, which emphasizes the need for a comprehensive and multidisciplinary approach to education. This framework informs the development of the E-Content Module for Numismatics, aligning with the theory's principles of nurturing well-rounded individuals who possess academic proficiency as well as emotional, ethical, and social awareness. The module's primary objective is to offer students a transformative learning experience that promotes holistic development.

Hypothesis of the Study

There will be no significant difference in the effectiveness of the Numismatics e-content module among the History teachers at graduate and post-graduate.

Population: It consisted of History teachers of Kolhapur Dist.

Sample: The sample consisted of 12 Undergraduate and Postgraduate History

teachers (from a college affiliated with Shivaji University).

In the current study investigator find the results of the survey and the survey method has been utilized to develop the Numismatics e-content module by applying the product method and the effectiveness of the e-content module has been measured by using the quasi-experimental method. This research has three method combinations so, it's called multi-method research. The investigator develops an e-content module on Numismatics through the product method which will be very beneficial for acquiring the information about Numismatics to the teacher.

Developing the product

A. **Introductory**- Prior knowledge and objectives regarding e-content modules were defined.

B. **The types of media-** In the e-content module different types of media are included i.e., text, charts, images, video, and audio, etc. The media was the form of flash software appropriate to run on the computer.

C. **Composition of the media-** The e-content module was composed by considering the type of content and convenient media.

D. **Providing of the media-** The e-content module was chosen and developed in collaboration with computer software experts. After that module was formed in MP4 format appropriate to run on the computer.

E. **Use of media and evaluation-** After the development of the e-content module pilot study was organized on history teachers. As per the expert's feedback pilot study changes were done.

The investigator decided on the major Numismatics concepts/components for the e-content module.

Table No. 1. Media of e-content Module

Content /components	Media	Technology
• Undergraduate Education (Numismatics Content) • Post- Graduate Education (Numismatics Content)	Text, Images, Animation, Video, Maps, Charts, Graphics, Audio, etc.	The following software was used to develop the module. 1. Microsoft Office Power Point. 2. Video Scribe. 3. adobe premiere pro. 4. OBS studio.

The investigator wrote a storyboard/content lesson first. After the storyboard writing is checked by experts. The experts were employed in the teaching field as a teacher/professor and associated with History, Archaeology, and Numismatics subjects in secondary to post-graduation and having knowledge of technology.

Using the UGC objective in the current study

1. The e-content module developed for the current study was based on the selected topic from the graduate and post-graduate History curriculum itself.

2. The e-content should be developed in the form of a module and presented as suggested by UGC.

3. Investigator developed an e-content module that was easily run on a PC.

The process of developing an e-content module on Numismatics

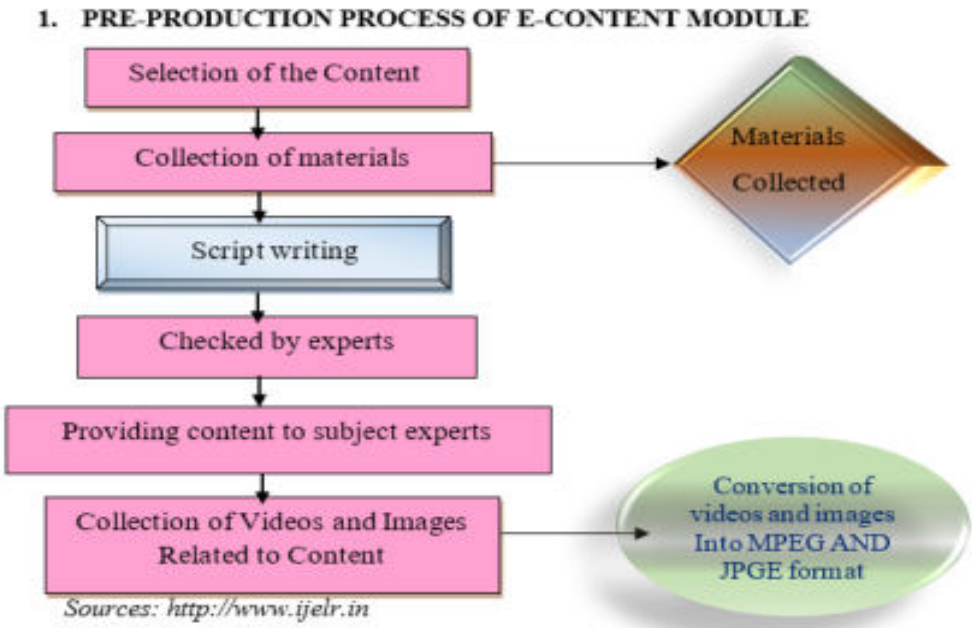
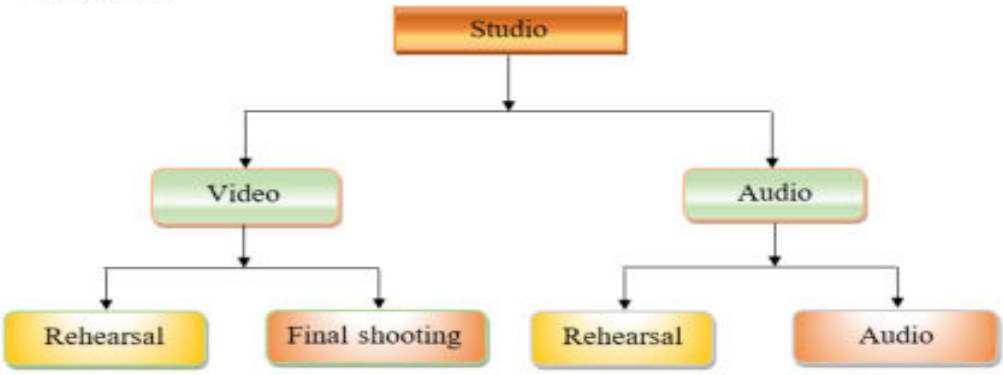


Figure No.1. Pre-Production Process

The pre-production process of an e-content module involves selecting content, collecting materials, script writing, and getting expert reviews. The content is then provided to subject experts, and relevant videos and images are collected. Finally, the videos and images are converted into MPEG and JPEG formats for integration into the e-content module.

2. SHOOTING AND RECORDING PROCESS OF E-CONTENT MODULE



Sources: http://www.ijelr.in

Figure No.2. Shooting and recording process

The shooting and recording process of an e-content module involves capturing video and audio content based on the prepared script. This includes setting up the recording environment, conducting the actual shooting, and recording voiceovers if necessary. The focus is on ensuring high-quality visuals and clear audio for effective e-content delivery.

Product Ready to Use

The e-content module was developed with the help of experts in software programming.

Table no.2. Technical description of the e-content module:

Module	Size	Format	Platform	Duration
Under-graduate	3.20 GB	Mp4	YouTube	40.06 min.
Post-graduate	2.46 GB	Mp4	YouTube	41.02 min.

Description of the e-content modules' learning results

Undergraduate and Post-Graduate Education (Numismatics E-Content Module)

- Knowledge- History teachers of Undergraduate and post-Graduate detailed the concept of Numismatics.
- Comprehensive- Undergraduate and post-Graduate History teacher described various online/offline/authentic facilities and sources of Numismatics.
- Benefits- Undergraduate and post-Graduate History teachers considered the educational implication of Numismatics.
- Awareness- Undergraduate and post-Graduate History teacher shows awareness about Numismatics information, sources, and with that ICT knowledge.
- Evaluation- History teachers operate the e-content module and give a best.

Validation and reliability of the e-content module

E-content validation had done by two experts who were working in the field of History teaching and with that they were experts in the development of educational CDs/DVDs. They had a history subject teacher along with great knowledge of technology.

Investigators were done the changes in the e-content module by giving suggestions from experts.

Pilot Study of The Product

For the present study will be selected 5 teachers from Undergraduate and postgraduate levels for the pilot study of the developed e-content module on Numismatics.

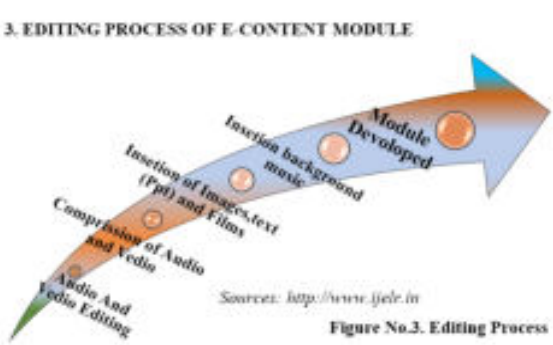


Figure No.3. Editing Process

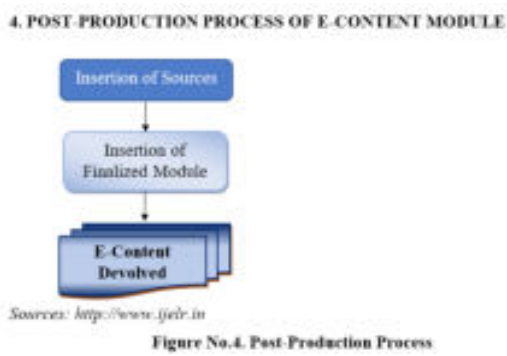


Figure No.4. Post-Production Process

The editing process of an e-content module includes refining and organizing the recorded material. This involves tasks such as cutting unnecessary segments, enhancing visual and audio quality, adding graphics or animations, and ensuring a seamless flow. The goal is to create a polished and engaging e-content module for effective educational delivery.

The post-production process of an e-content module involves the final stages of refining and preparing the content for distribution. This includes editing, adding any necessary finishing touches, incorporating feedback, and ensuring the overall quality of the module. The goal is to produce a polished and ready-to-use e-content module for educational purposes.

Table no. 3. Final Product

Module	Size	Format	Platform	Duration
Undergraduate	3.20 GB	Mp4	YouTube	45.13 min.
Post-graduate	2.46 GB	Mp4	YouTube	42.08 min.

To measure the effectiveness of the Numismatics e-content module the researcher developed the questionnaire **(**Google form format) for the post-test of Undergraduate and postgraduation History teachers. And checklist **(**Google form format) for experts.

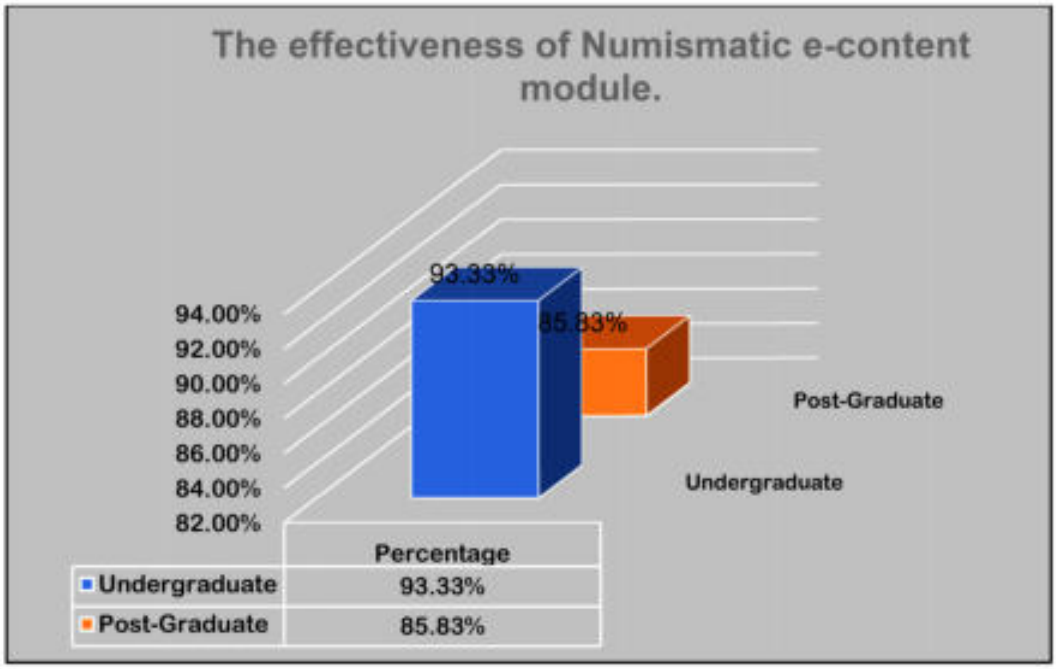
Table no. 4. The difference in the effectiveness of the Numismatics e-content module among the History teachers at Graduate and Post-graduate.

History teachers	Mean	S. D	df	't' cal.	't' table value		Result
				Value	0.05 level	0.01 level	
Undergraduate	18.66	1.03	11	0.05			H_1
Post-graduate	17.16	1.32			2.2	3.11	Rejected

The calculated 't' value is less than the table 't' value at 0.05 level and 0.01 of significant. Hence the H_1 is rejected and H_0 is accepted.

Table no. 5. Percentage of the effectiveness of the Numismatic e-content module.

Education level	History teachers	Percentage
Undergraduate	6	93.33%
Post-Graduate	6	85.83%



Graph no.1. Percentage of the effectiveness of the Numismatic e-content module.

Conclusion

Numismatics e-content module is very effective for different educational levels.

The E-Content Module for teaching and learning Numismatics aligns with the dimensions of **Numismatics and contributes to holistic development in several ways:**

1. Historical Dimension:

- **Alignment:** The module explores the historical aspects of coins and currency, tracing their evolution through time and delving into the significance of various coins in different eras.

- **Contribution to Holistic Development:** By immersing students in historical narratives, the module enhances their understanding of history, fosters critical thinking about historical contexts, and nurtures an appreciation for the past.

2. Economic Dimension:

- Alignment: The module delves into the economic aspects of numismatics, including the role of coins in trade, currency systems, and economic development.

- Contribution to Holistic Development: It equips students with economic literacy, enabling them to comprehend the economic underpinnings of societies throughout history, contributing to financial literacy.

3. Cultural and Artistic Dimension:

- Alignment: The module explores the artistic and cultural elements of coins, including their designs, symbolism, and the stories they convey.

- Contribution to Holistic Development: It nurtures an appreciation for art and aesthetics, encouraging creative expression and imaginative thinking. Students learn to interpret the cultural significance of coins and artifacts, promoting cultural awareness and empathy.

4. Technological Dimension:

- Alignment: The module connects numismatics to technology by utilizing multimedia resources, interactive elements, and digital platforms for learning.

- Contribution to Holistic Development: It enhances students' digital literacy and technological proficiency, skills vital for success in the modern world.

5. Emotional and Social Dimension:

- Alignment: The module is designed to encourage students to connect emotionally with the historical and cultural aspects of numismatics.
- Contribution to Holistic Development: This emotional connection cultivates empathy and a deeper understanding of human experiences throughout history. Additionally, collaborative learning activities in the module promote social skills and a sense of community among learners.

6. Ethical and Values Dimension:

- Alignment: The module addresses ethical considerations in the study of numismatics, including the preservation of cultural heritage and ethical behaviour in dealing with artifacts.
- Contribution to Holistic Development: It instils ethical values and cultural sensitivity, fostering a sense of responsibility and ethical conduct in students.

7. Lifelong Learning Dimension:

- Alignment: The module is designed to ignite curiosity and passion for lifelong learning through engaging and enduring educational experiences.
- Contribution to Holistic Development: It encourages students to continue exploring Numismatics independently, promoting continuous learning beyond formal education.

In summary, the E-Content Module aligns with the diverse dimensions of Numismatics, providing students with a multifaceted understanding of this field. This comprehensive approach contributes to holistic development by nurturing critical thinking, emotional intelligence, ethical values, digital literacy, artistic appreciation, and lifelong learning. It prepares students not only for academic success but also for personal growth and success in various aspects of life.

By assessing these dimensions, the research aims to shed light on how the E-Content Module contributes to the holistic development of students, preparing them not only with academic knowledge but also with essential skills and attributes vital for their success in the 21st century. This study aligns with the broader objective of advancing pedagogical innovation and enhancing the quality of higher education through the integration of technology and interdisciplinary learning in the field of Numismatics.

"To what extent does the E-Content Module contribute to the holistic development of students, encompassing academic, emotional, ethical, and social dimensions, in higher education?"

The investigation into the holistic impact of the E-Content Module for numismatics. It includes a range of specific areas related to student development:

1. **Academic Advancement:** The research endeavours to evaluate how the module influences students' academic growth, including their comprehension of numismatics, grasp of historical and economic contexts, and academic accomplishments.

2. **Emotional Growth**: This study aims to gauge how the module affects students' emotional intelligence, their ability to forge emotional connections with historical artifacts, and their overall emotional well-being.

3. **Ethical Progression:** The research assesses the module's role in instilling ethical values, ethical behaviour, and cultural sensitivity in students, particularly in their interactions with cultural artifacts.

4. **Social Advancement:** This dimension delves into how the module fosters social skills, collaboration, community engagement, and the development of a sense of belonging among students.

This research question directs the comprehensive evaluation of the E-Content

Module's influence on students' holistic development, considering academic, emotional, ethical, and social dimensions. It signifies a valuable contribution to pedagogical innovation in higher education, providing valuable insights into the cultivation of well-rounded individuals through technology-enhanced learning.

Conclusion

In this research has pioneered an innovative e-content module for holistic development of Numismatics for higher education, designed to enrich students' holistic development through the study of Numismatics. Our findings unequivocally demonstrate that this module not only deepens students' comprehension of Numismatics but also stimulates critical thinking, creativity, and collaboration, simultaneously connecting various dimensions.

This study holds tremendous significance by illustrating the immense potential of technology-enhanced education in advancing holistic development. It further accentuates the importance of interdisciplinary learning, offering invaluable insights into the creation of transformative educational experiences that Mold well-rounded, capable, and socially conscious individuals. It guides our path toward realizing holistic education as an attainable and vital goal.

References

Agarwal, H. and Pandey, G. N., (2013), "*Impact of E-Learning in Education*", International Journal of Science and Research (IJSR), ISSN (Online): 2319-7064, Volume 2 Issue 12, December 2013, pp.146-148, Retrieved from: www.ijsr.net

Albina, A.P. (2018), "*Effectiveness of E-content in Teaching of Mathematics Education among B.Ed. Student-teachers*", American Journal of Educational Research, 6(7), 1021-1028. Retrieved from www.pubs.sciepub.com.

Bezhovski, Z. and Poorani, S., (2016), "*The Evolution of E-Learning and New Trends* ", Information and Knowledge Management, ISSN 2224-5758 (Paper) ISSN 2224-

896X (Online) Vol.6, No.3, pp. 50-57. Retrieved from: https://www.researchgate.net/publication/354381498.

Bhatt, D. & Maniar, A., (2017), '*Research Trends in the area of e-content Development and Validation in Higher Education*' Vol-7, Issue: 5, P-495-515, ISSN: 2249-2496. Retrieved from: http://www.ijmra.us.

Dhavale, S. M. and et.al. (2014),"*Development of E-Content for Effective Teaching and Learning*", ISBN: 978-93-5174-783-3. Retrieved from: https://www.researchgate.net/publication/354144444.

Dr. Mishra, U., Dr. Patel, S., and Ms. Doshi, K., (2017), "*E-Content: An Effective Tool for Teaching and Learning in A Contemporary Education System*" IJARIIE-ISSN(O)-2395-4396, Vol-2 Issue-1, pp. 79-83. Retrieved from: http://www.ijariie.com.

Hubackova, S. (2015), 'History and Perspectives of eLearning', V-191, P-1187 – 1190, Retrieved from: https://www.sciencedirect.com.

Kapoor, A., and Choudhary, M., (2019), *"Holistic Education in India: A Necessity for Sustainable Development"* International Journal of Advanced Research in Education & Technology (IJARET). Retrieved from: https://www.ijese.com

Manikandan, P. and Dr. Dhanalakshmi, K., (2017), '*Effective e-content development procedures and its importance for self-paced learning,'* Vol-3, Issue-6, Part A-3-5, P-161-894, Retrieved from: https://www.allresearchjournal.com.

Nachimuthu, K. (2012), "*Need of E-Content Developments in Education*" Education Today, An International Journal of Education & Humanities, APH pub, New Delhi, ISSN: 2229-5755, Vol. 03. No.02. pp. 72-80 Retrieved from: https://www.academia.edu.

Prabakaran, B. and Dr. Ar. Saravanakumar, (2020), "*An Interactive E-Content*

Module for Learning Mathematics -A Single Group Experiment", ISSN: 2005-4238 IJAST International Journal of Advanced Science and Technology, Vol. 29, No. 5s, (2020), pp. 1297-1313. Retrieved from: https://www.academia.edu/42695311.

Reecha Jrall and DR. kiran, (2022), "*Development of E-content Module and Measuring Effectiveness in the Topic Understanding ICT and its Application at B. Ed Level*", International Journal of Early Childhood Special Education (INT-JECSE), DOI:10.9756/INTJECSE/V14I5.665 ISSN: 1308-5581 Vol 14, Issue 05 2022, pp. 5443-5449. Retrieved from: https://www.researchgate.net/publication/363672509.

Sindhu, R. & Verma, P., (2020), '*Currency Recognition System Using Image Processing'*, Vol. 11, Issue-4, P:1595-1601, ISSN 2229-5518. Retrieved from: https://www.citefactor.org.

Singaravelu, G. (2019), *"E-Content Development: future and provocation*", JASC: Journal of Applied Science and Computations, Volume VI, Issue I, January/2019, ISSN NO: 1076-513. pp. 2379-2386. Retrieved from: https://www.researchgate.net/publication/332935566.

Terry Marsden and Tim Murphy, (2001), *"Sustainable Development Education: A Holistic Approach"* Environmental Education Research.

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6 Transdisciplinary Approach of Teaching in Teacher Education : A Qualitative Research Study

Dr. Vidyanand S. Khandagale

Abstract:

Teacher education programs play a crucial role in preparing educators to meet the diverse needs of modern education. In recent years, there has been a growing interest in innovative approaches that promote dynamic and learner-centred pedagogies in teacher education. One such approach is the transdisciplinary approach, which encourages teachers to transcend disciplinary boundaries and integrate knowledge, skills, and perspectives from diverse disciplines to address authentic educational challenges.

The transdisciplinary approach is increasingly recognized as a valuable tool for addressing complex real-world problems that require multiple perspectives and disciplines. This paper presents a construct andragogical tool based on the transdisciplinary approach for teacher education programs. The tool is designed to help teachers-in-training develop a transdisciplinary mindset and skills that they can apply in their future teaching practice. The tool consists of seven steps: Identify the problem or challenge, assemble the transdisciplinary team, conduct the collaborative research, analyse and synthesise the findings, Co-design and develop andragogical tools, implement and evaluate the tool and Reflect and iterate. The paper concludes by discussing the potential benefits of using this tool in teacher education programs.

This research paper presents an exploration of the transdisciplinary approach as

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an andragogical tool in a teacher education program, applying thematic analysis to analyze the existing literature in the field.

Key words. The transdisciplinary approach of teaching, andragogy,

Introduction:

Teaching is a complex and challenging profession that requires a diverse range of skills and knowledge. In recent years, there has been growing recognition of the value of the transdisciplinary approach for addressing complex real-world problems. The transdisciplinary approach integrates knowledge and perspectives from multiple disciplines to address problems that cannot be solved by a single discipline alone. This approach has the potential to help teachers-in-training develop a more comprehensive and holistic understanding of the problems they may face in their future teaching practice. In this paper, we present a construct andrological tool based on the transdisciplinary approach for teacher education programs.

The transdisciplinary approach has gained increasing attention in the field of education as a pedagogical approach that goes beyond traditional disciplinary boundaries, fostering integrative and holistic learning experiences. This review of literature provides an overview of the key concepts, principles, and applications of the transdisciplinary approach in teaching and learning, drawing on interdisciplinary sources to examine the current state of knowledge and identify future directions for research and practice.

The transdisciplinary approach in teaching and learning involves the integration of knowledge, skills, and perspectives from multiple disciplines or fields of study to address real-world problems or complex topics. Unlike traditional disciplinary-based approaches, transdisciplinary teaching seeks to transcend disciplinary boundaries and promote a more holistic understanding of the interconnected nature of knowledge and its application in real-life contexts. This approach encourages students to make connections across different disciplines, engage in

critical thinking, and develop problem-solving skills through an integrative and collaborative learning process.

One of the key principles of the transdisciplinary approach in teaching is the focus on authentic and relevant learning experiences. Transdisciplinary teaching aims to make learning meaningful and relevant to students' lives by connecting classroom content to real-world issues or problems. This approach encourages students to apply their knowledge and skills to solve real-life problems, fostering a sense of purpose, engagement, and ownership in their learning process. It also promotes the development of transferable skills, such as critical thinking, communication, and collaboration, which are highly valued in the 21st century workforce.

Another important principle of transdisciplinary teaching is the promotion of active and participatory learning. Transdisciplinary approaches emphasize the active involvement of students in the learning process, encouraging them to be active learners who construct their own knowledge through inquiry, exploration, and reflection. This approach encourages students to take ownership of their learning, engage in critical thinking, and develop a deep understanding of the subject matter. It also encourages collaboration and dialogue among students, fostering social and emotional development, as well as promoting diversity and inclusion in the classroom.

Transdisciplinary approaches are being applied in various educational settings, including K-12 schools, higher education, and informal education. For example, in K-12 schools, transdisciplinary teaching has been used to address complex and relevant topics such as sustainability, global citizenship, and social justice, by integrating multiple subjects and engaging students in real-world problem-solving activities. In higher education, transdisciplinary approaches have been utilized in interdisciplinary programs or courses that aim to foster integrative learning and prepare students for the complexities of the modern world. In informal education settings, such as museums, science centers, or community-based organizations,

transdisciplinary approaches have been used to promote hands-on, experiential learning that bridges disciplinary boundaries and engages learners in active and participatory experiences.

Several frameworks and models have been proposed to guide the implementation of transdisciplinary approaches in teaching and learning. For example, the "Three Pillars Model" proposed by Jacobs (1989) emphasizes the integration of multiple disciplines, the connection to real-world issues, and the development of transferable skills. The "Transdisciplinary Learning Model" developed by Hmelo-Silver et al. (2007) provides a framework for designing transdisciplinary learning experiences that involve problem-based learning, collaborative inquiry, and reflection. The "Connectivist Learning Theory" proposed by Siemens (2005) emphasizes the importance of networked learning, where learners connect with diverse resources and communities to construct their own knowledge.

Several theoretical frameworks and models have been proposed to guide transdisciplinary teaching. For example, the "Transdisciplinary Learning Model" proposed by Jacobs (1989) emphasizes the integration of knowledge domains, the development of metacognitive skills, and the application of knowledge to real-world problems. The "Three Ps Model" developed by Falk and Dierking (2000) highlights the importance of personal relevance, physical engagement, and social interaction in transdisciplinary teaching. The "Integrated Curriculum Model" proposed by Beane (1997) focuses on the integration of different disciplines and the incorporation of students' interests and perspectives in the curriculum.

One of the key concepts in the transdisciplinary approach to teacher education is the integration of diverse disciplines and knowledge domains. Teachers need to be prepared to teach across multiple subject areas, and the transdisciplinary approach emphasizes the interconnectedness of knowledge and the need to integrate different disciplines into the curriculum. This integration allows teachers to develop a more comprehensive understanding of complex topics and enables

them to design interdisciplinary lessons and units that promote deeper learning among their students.

Another important principle of the transdisciplinary approach in teacher education is the emphasis on experiential and inquiry-based learning. Teachers are encouraged to engage in hands-on, authentic experiences that allow them to explore and apply knowledge in real-world contexts. This experiential approach to learning allows teachers to develop a deep understanding of how different disciplines are interconnected and how they can be integrated into their own teaching practice. Inquiry-based learning also promotes critical thinking, problem-solving, and reflective practices among teachers, which are essential skills for effective teaching in the 21st century.

Transdisciplinary approaches are being implemented in various teacher education programs, including pre-service and in-service training. Pre-service teacher education programs are incorporating transdisciplinary approaches in their curriculum, providing opportunities for future teachers to develop a holistic understanding of diverse disciplines and to design interdisciplinary lessons and units. In-service training programs are also incorporating transdisciplinary approaches to support teachers in their professional development, helping them to develop the skills and strategies to implement transdisciplinary teaching in their classrooms.

Several theoretical frameworks and models have been proposed to guide the transdisciplinary approach in teacher education. For example, the "Integrative Pedagogy Model" proposed by Rhoton and Kassabgy (2017) emphasizes the integration of content knowledge, pedagogical knowledge, and reflective practices in teacher education. The "Pedagogy of Multiliteracies" framework developed by Cope and Kalantzis (2000) focuses on the integration of multiple literacies, including digital, visual, and cultural literacies, in teacher education. These frameworks provide valuable guidance for teacher educators in designing and implementing transdisciplinary approaches in their programs.

However, there are also challenges and limitations associated with the implementation of transdisciplinary approaches in teacher education. These include issues related to curriculum design, assessment, and faculty development. Designing a transdisciplinary curriculum for teacher education programs requires careful consideration of how to integrate different disciplines, align learning outcomes with standards, and assess teachers' learning across multiple domains. Assessment of transdisciplinary learning among teachers can be complex, as it may require new approaches to assessment that go beyond traditional tests and exams, such as performance assessments, portfolios, and self-assessment. Faculty development is also crucial to ensure that teacher educators are equipped with the necessary skills and knowledge to implement transdisciplinary approaches effectively in their programs.

In conclusion, the transdisciplinary approach in teacher education offers a promising approach to prepare future teachers with the skills and knowledge to navigate the complexities of the 21st-century classroom. By integrating diverse disciplines, promoting experiential and inquiry-based learning, and providing opportunities for reflection and professional development, the transdisciplinary approach can help educators to become more effective and holistic practitioners in preparing students for the challenges of the modern world.

Transdisciplinary approaches in teacher education emphasize the integration of knowledge and skills from various disciplines, including education, psychology, sociology, and other relevant fields. These approaches aim to provide a comprehensive understanding of the complex nature of teaching and learning, beyond traditional subject-specific boundaries. Teachers are encouraged to explore and make connections between different fields of knowledge, and to apply this interdisciplinary understanding in their teaching practice. This integration of diverse knowledge domains can enable teachers to better understand the complex needs of their students, adapt their instruction accordingly, and develop more innovative and effective teaching strategies.

Another important principle of transdisciplinary approaches in teacher education is the promotion of critical reflection and inquiry-based learning. Teachers are encouraged to critically reflect on their own beliefs, assumptions, and practices, and to engage in ongoing inquiry and research to continuously improve their teaching. This reflective and inquiry-based approach promotes a culture of lifelong learning among teachers and enables them to better understand and adapt to the dynamic and evolving nature of education.

Transdisciplinary approaches in teacher education can be implemented through various strategies, such as collaborative learning communities, interdisciplinary courses, and experiential learning opportunities. Collaborative learning communities, such as professional learning communities (PLCs), provide opportunities for teachers to engage in collaborative reflection, problem-solving, and knowledge-sharing with their peers from different disciplines. Interdisciplinary courses, which integrate knowledge from different fields, can provide teachers with a broader understanding of the complex challenges of education and promote critical thinking skills. Experiential learning opportunities, such as field-based experiences, internships, or practicum, can provide teachers with hands-on experiences to apply their interdisciplinary understanding in real-world settings.

Several theoretical frameworks and models have been proposed to guide the implementation of transdisciplinary approaches in teacher education. For example, the "Pedagogy of Multiliteracies" framework developed by New London Group (1996) emphasizes the integration of multiple modes of communication, including digital, visual, and print, in teacher education. The "Teaching for Understanding" framework developed by Perkins and Blythe (1994) highlights the importance of deep understanding, transfer of knowledge, and metacognitive skills in teacher education. The "Interconnected Model of Professional Growth" proposed by Darling-Hammond and Bransford (2007) emphasizes the integration of knowledge from multiple domains, such as subject matter, pedagogy, and context, in teacher education.

However, there are also challenges and limitations associated with the implementation of transdisciplinary approaches in teacher education. These include issues related to curriculum design, faculty development, and assessment. Designing a transdisciplinary curriculum for teacher education programs requires careful consideration of how to integrate different disciplines, align learning outcomes with teaching standards, and assess the effectiveness of transdisciplinary approaches. Faculty development is also critical to ensure that teacher educators are equipped with the necessary knowledge, skills, and attitudes to implement transdisciplinary approaches in their instruction. Assessment of transdisciplinary learning in teacher education may require new approaches that go beyond traditional measures, such as standardized tests, to capture the complexity of interdisciplinary knowledge and skills.

Another important principle of the transdisciplinary approach in teacher education is the emphasis on reflective practice and critical inquiry. Transdisciplinary teacher education programs encourage teachers to engage in self-reflection, critical thinking, and problem-solving, as they explore and analyze complex educational issues. This reflective and critical inquiry-based approach helps teachers to develop a deeper understanding of the multifaceted nature of teaching and learning and enables them to make informed decisions in their pedagogical practices.

Transdisciplinary approaches in teacher education are being implemented through various strategies, such as collaborative learning, project-based learning, case-based learning, and experiential learning. Collaborative learning encourages teachers to work together in diverse teams, drawing on their respective knowledge and skills, to solve real-world problems related to education. Project-based learning involves teachers in designing and implementing interdisciplinary projects that integrate different subjects and engage students in active learning. Case-based learning involves teachers in analyzing and discussing real-life cases related to teaching and learning, which helps them to develop critical thinking and problem-solving skills. Experiential learning involves teachers in hands-on experiences, such as fieldwork,

internships, and simulations, to apply their knowledge and skills in authentic educational settings.

Several theoretical frameworks and models have been proposed to guide transdisciplinary approach in teacher education. For example, the "Transdisciplinary Pedagogical Framework" developed by Lattuca and Stark (2009) emphasizes the integration of different disciplines, the development of critical reflection, and the application of knowledge to real-world contexts. The "Transformative Learning Model" proposed by Mezirow (1997) highlights the importance of critical reflection, perspective transformation, and action in teacher education. The "Professional Inquiry Model" developed by Cochran-Smith and Lytle (1999) focuses on the use of collaborative inquiry to promote reflective practice and professional learning among teachers.

However, there are also challenges and limitations associated with the implementation of transdisciplinary approach in teacher education. These include issues related to curriculum design, faculty development, and assessment. Designing a transdisciplinary teacher education curriculum requires careful consideration of how to integrate different disciplines, align learning outcomes with professional standards, and ensure coherence and relevance of the program. Faculty development is crucial, as teachers need adequate preparation and support to effectively implement transdisciplinary approaches in their pedagogical practices. Assessment of transdisciplinary learning in teacher education can be complex, as it may require new approaches to assessment that go beyond traditional methods, such as performance assessments, portfolios, and self-assessment.

Several theoretical frameworks and models have been proposed to guide the transdisciplinary approach in teacher education. For instance, the "Transformative Pedagogical Model" proposed by Darling-Hammond (2017) emphasizes integrating theory and practice, reflection, and collaboration in teacher education. The "Collaborative Inquiry Model" developed by Cochran-Smith and Lytle (1999)

highlights the importance of collaborative learning experiences and partnerships among stakeholders in teacher education. The "Pedagogy of Multiliteracies" proposed by Cope and Kalantzis (2000) focuses on the integration of multiple literacies, including digital literacies, in teacher education.

Research design

A transdisciplinary approach was applied in teacher education to develop and implement andragogical tools that foster effective and holistic learning experiences for adult learners. Andragogy, or the art and science of teaching adults, focuses on the unique characteristics and needs of adult learners, such as their self-directedness, experience, motivation, and relevance of learning to their professional practice. By incorporating transdisciplinary principles into andragogical tool development in teacher education, educators can create innovative and effective approaches to prepare teachers for the complex and dynamic demands of the modern education landscape.

The following are the steps that were followed to explore and develop andragogical tools based on a transdisciplinary approach in teacher education:

1. Identify the problem or challenge: Begin by identifying a specific problem or challenge in teacher education that requires a transdisciplinary approach. This could be a complex issue related to teaching practices, curriculum development, assessment, or professional development for teachers.

2. Assemble a transdisciplinary team: Form a transdisciplinary team that includes experts from different disciplines, such as education, psychology, sociology, technology, and other relevant fields. The team should have diverse perspectives and expertise to contribute to the problem-solving process.

3. Conduct collaborative research: Engage in collaborative research to gain a comprehensive understanding of the problem or challenge from different disciplinary perspectives. Conduct literature reviews, empirical research,

and other forms of inquiry to gather evidence and insights related to the problem.

4. Analyze and synthesize findings: Analyze and synthesize the findings from the research to identify patterns, trends, and gaps in knowledge. Look for opportunities to integrate ideas, concepts, and theories from different disciplines to generate new insights and understanding.

5. Co-design and develop andragogical tools: Utilize a co-design approach that involves collaborative brainstorming, prototyping, and iterative development to design and develops andragogical tools that address the identified problem or challenge. Draw on the expertise of the transdisciplinary team to ensure that the tools are effective, relevant, and innovative.

6. Implement and evaluate the tools: Implement the developed andragogical tools in teacher education settings and evaluate their effectiveness in addressing the identified problem or challenge. Collect data, such as student feedback, learning outcomes, and other relevant indicators, to assess the impact of the tools and make refinements as needed.

7. Reflect and iterate: Reflect on the implementation and evaluation results, and iterate the andragogical tools based on the feedback received. Continuously refine and improve the tools based on the insights gained from the transdisciplinary approach, and incorporate new knowledge and perspectives as needed.

By following these steps, a transdisciplinary approach was used in teacher education to develop and implement andragogical tools that enhance the learning experiences of adult learners and prepare them for the complex demands of the teaching profession. It promotes collaboration, innovation, and creativity among educators from different disciplines, leading to more holistic and effective approaches to teacher preparation.

Based on the above stages of the Transdisciplinary approach of teaching have been chosen topics from the teacher education curriculum of B.Ed.-M.Ed. pursuing their degree.

The topic identifies were,

1. **Role of education in resolving social issues:**

- Sociology: Understanding the social structures and systems that perpetuate social issues.
- Psychology: Understanding the individual and collective behavior that contribute to social issues.
- Ethics: Understanding the moral principles and values that guide actions to resolve social issues.
- Political science: Understanding the role of government and policy in addressing social issues.
- Environmental science: Understanding the impact of social issues on the environment and vice versa.
- Economics: Understanding the economic factors that contribute to and result from social issues.
- Education: Understanding how education can be used to create awareness, develop critical thinking and problem-solving skills, and foster social responsibility.

2. **Education for Sustainable Development:**

Environmental science: Understanding the ecological systems and the impact of human activities on them.

- Economics: Understanding the role of economic development in

sustainable development and the impact of unsustainable economic practices.

- Ethics: Understanding the ethical principles and values that guide sustainable development.
- Social sciences: Understanding the social and cultural dimensions of sustainable development.
- Education: Understanding the role of education in fostering sustainable development by promoting awareness, knowledge, and skills related to sustainability.

3. **Education for Gender Equity and Women Empowerment:**

Gender studies: Understanding the social, cultural, and political aspects of gender.

- Sociology: Understanding the gender-based discrimination and social inequality.
- Psychology: Understanding the psychological factors that contribute to gender inequality.
- Education: Understanding the role of education in promoting gender equity and empowering women by creating awareness, changing attitudes and behaviors, and developing skills.

4. **Educational Planning in India:**

- Political science: Understanding the political factors that influence educational planning in India.
- Economics: Understanding the economic factors that affect educational planning in India.

- Sociology: Understanding the social factors that affect educational planning in India.
- Education: Understanding the education policies, goals, and challenges in India.

5. **Economics of Education and Employment:**

- Economics: Understanding the economic principles and concepts related to education and employment.
- Sociology: Understanding the social and cultural factors that influence education and employment.
- Psychology: Understanding the individual factors that influence education and employment.
- Education: Understanding the role of education in preparing individuals for employment and its impact on economic development.

6. **Factors influencing on development – Environment, Heredity, Nutrition, Diseases, Drugs, Language, Intelligence:**

- Biology: Understanding the genetic and biological factors that influence development.
- Environmental science: Understanding the environmental factors that affect development.
- Nutrition science: Understanding the role of nutrition in development.
- Psychology: Understanding the cognitive and behavioral factors that influence development.
- Education: Understanding the role of education in promoting development by providing opportunities for learning and growth.

7. **Impact of Families on Nurturing the Child:**

- Psychology: Understanding the psychological and emotional development of children in the family context.
- Sociology: Understanding the social and cultural factors that influence family dynamics and child development.
- Education: Understanding the role of education in promoting family involvement in children's learning and development.

8. **Important Determinants of Personality – Genetic, Social, Personal, Cultural:**

- Psychology: Understanding the individual factors that influence personality.
- Sociology: Understanding the social and cultural factors that shape personality.
- Anthropology: Understanding the cultural factors that shape personality.
- Genetics: Understanding the genetic factors that influence personality.

9. **School Influence on Personality:**

- Psychology: Understanding the psychological development of children in the school context.
- Education: Understanding the role of education in shaping personality through teaching and learning experiences.
- Sociology: Understanding the social and cultural factors that shape personality in the school context.
- School Influence on personality:

- Psychological theories: understanding the role of the school environment and experiences in shaping personality development from various psychological perspectives, such as behaviorism, humanism, and cognitive psychology.
- Socialization processes: exploring how schools socialize students into cultural norms, values, and roles, and examining the impact of peer relationships, teacher-student interactions, and school climate on personality.
- Neuroscientific research: investigating the neural mechanisms and brain plasticity underlying the effects of schooling on cognitive, emotional, and social development.

10. **Horticulture in poverty reduction:**

- Agricultural science: exploring the potential of horticulture as a sustainable and productive source of food, income, and employment in impoverished communities, and examining the biophysical factors affecting crop productivity and yield.
- Economic analysis: evaluating the economic viability and market opportunities of horticulture as a poverty reduction strategy, and examining the impact of agricultural policies and market forces on smallholder farmers and rural livelihoods.
- Social and cultural dimensions: examining the gender roles, social norms, and cultural practices that influence the adoption and success of horticulture interventions, and promoting social inclusion and empowerment of marginalized groups.

11. Child Centered School Environment

- Educational Psychology: The importance of creating an environment that fosters autonomy, competence, and relatedness for the child's overall development
- Curriculum Development: Designing curriculum and activities that align with the child's developmental needs, interests, and abilities
- Teacher Education: Training teachers in child development theories and pedagogies that promote child-centered learning
- Social Sciences: The role of culture, family, and socialization in shaping the child's personality and learning outcomes
- Neuroscience: The impact of brain development and early experiences on learning and behavior

12. Culture specific pedagogies

- Anthropology: Understanding cultural diversity and how it impacts teaching and learning
- Linguistics: The importance of language and communication in teaching and learning in different cultural contexts
- Education Policy: Developing policies that promote culture-specific pedagogies and support culturally responsive teaching practices
- History: The impact of colonialism, globalization, and migration on cultural identities and education systems
- Sociology: The role of culture in shaping educational access, outcomes, and inequalities

13. **Development of social skills and abilities**

- Educational Psychology: The importance of social-emotional learning in fostering positive social behaviors and relationships
- Developmental Psychology: Understanding the stages of social development and how they relate to learning and academic achievement
- Social Work: Strategies for promoting social skills, conflict resolution, and empathy among students
- Education Policy: Developing policies that promote social and emotional learning and support teachers in promoting positive social behaviors and relationships
- Neuroscience: Understanding the neural basis of social behavior and learning

14. Spill-over and inter-generational effects of education.

- Economics: The economic benefits of education for individuals, families, and society as a whole
- Sociology: The impact of education on social mobility, inter-generational transmission of inequality, and social cohesion
- Psychology: The psychological benefits of education on well-being, health, and personal growth
- Education Policy: Developing policies that promote access to education, reduce educational inequalities, and support inter-generational transmission of knowledge and skills
- Statistics: Measuring the spill-over effects of education on health, productivity, and social outcomes

15. **Education as an industry**

- Economics: The economic dimensions of education as a sector, including financing, investment, and productivity
- Business Management: Strategies for managing educational institutions and resources, including marketing, human resources, and quality assurance
- Sociology: The impact of privatization, marketization, and globalization on the education industry and its stakeholders
- Education Policy: Developing policies that balance the market and public interests in education, including regulation, accountability, and equity
- History: The evolution of the education industry over time and across different countries and cultures

16. **The problems of educated unemployment, underemployment and disguised unemployment.**

- Economics: The causes and consequences of educated unemployment, underemployment, and disguised unemployment, including the impact on individuals, families, and society
- Education Policy: Developing policies that align education with labor market needs and promote skills-based training and lifelong learning
- Sociology: The impact of social inequality, discrimination, and exclusion on the labor market outcomes of educated individuals
- Psychology: The psychological and social costs of unemployment and underemployment, and strategies for promoting resilience and well-being among affected individuals and communities

- Statistics: Measuring and analyzing the extent and distribution of educated unemployment, underemployment, and disguised unemployment across different populations and regions

17. Creating and sustaining inclusive practices:

- Social sciences: exploring social constructions of difference, social justice, and equity.
- Education: understanding the impact of inclusive practices on student achievement, teaching strategies, and classroom management.
- Psychology: examining implicit biases, prejudice reduction, and stereotype threat in education.
- Sociology: analyzing the relationship between educational systems and inequality, and the role of schools in shaping attitudes towards marginalized groups.
- Anthropology: studying cultural practices, norms, and values, and their impact on education.
- Law: examining legal frameworks for inclusive practices and anti-discrimination laws.

18. Multicultural education:

- Anthropology: studying cultural practices, norms, and values, and their impact on education.
- History: examining the historical context of multiculturalism, including colonialism, migration, and globalization.
- Linguistics: exploring the role of language in culture and identity, and its implications for education.

- Sociology: analyzing the relationship between education and social diversity, and the effects of multicultural education on student achievement and social cohesion.
- Psychology: examining implicit biases, stereotype threat, and prejudice reduction in multicultural education.

19. Factors to be Considered in Curriculum - Social, Political, Economic:

- Political science: exploring the political context of curriculum development and implementation, and the role of educational policy in shaping curriculum.
- Sociology: analyzing the social structures and power dynamics that shape curriculum, and the impact of curriculum on social inequality.
- Economics: examining the economic factors that influence curriculum development and implementation, and the relationship between education and economic development.
- Philosophy: exploring the ethical and moral considerations in curriculum development, and the values that underpin different curricula.

20. Prejudices towards special children of teachers and other students:

- Psychology: examining the impact of stereotypes and biases on special education students and their academic achievement, and exploring strategies for reducing prejudice.
- Education: examining the role of educators in perpetuating or challenging biases and stereotypes, and the importance of inclusive practices in special education.
- Sociology: analyzing the social and cultural factors that contribute to prejudice towards special education students, and the impact of

prejudice on student outcomes.

21. Reducing prejudices, biases and stereotypes and building multicultural orientation:

- Psychology: examining the impact of stereotypes and biases on marginalized groups, and exploring strategies for reducing prejudice.
- Anthropology: studying cultural practices, norms, and values, and their impact on prejudice and bias.
- Education: exploring the role of educators in perpetuating or challenging biases and stereotypes, and the importance of inclusive practices in reducing prejudice.
- Sociology: analyzing the social and cultural factors that contribute to prejudice and bias, and the impact of prejudice on marginalized groups.

22. Education and social diversity:

- Sociology: analyzing the relationship between education and social diversity, including race, ethnicity, gender, sexuality, and social class.
- Anthropology: studying cultural practices, norms, and values, and their impact on education and social diversity.
- Education: exploring the impact of social diversity on teaching and learning, and the importance of inclusive practices in education.
- Political science: examining the political context of education and social diversity, including the role of educational policy in promoting or hindering diversity in schools.

23. Education and Linguistic Diversity:

- Linguistics: exploring the role of language in culture and identity, and its implications for education and linguistic diversity.
- Anthropology: studying cultural practices, norms, and values, and their impact on linguistic diversity in education.
- Education: exploring the impact of linguistic diversity on teaching and learning, and the importance of inclusive practices in promoting linguistic diversity.
- Sociology: analyzing the social and cultural factors that contribute to linguistic diversity in education, and the impact of linguistic diversity on student outcomes.

24. Education and Women

- Social and Cultural Perspectives: Women's education is influenced by socio-cultural norms and beliefs, which affects access to education, educational attainment, and the quality of education.
- Economic and Political Factors: Economic and political factors play a significant role in women's education, including access to resources and opportunities, as well as policies and legislation that support women's education.
- Gender-Based Violence: Gender-based violence affects women's access to education and hinders their ability to learn in safe environments.
- Health and Well-Being: Education has a positive impact on women's health and well-being, including reproductive health, maternal health, and mental health.
- Empowerment: Education empowers women and contributes to their

social, economic, and political empowerment.

- Intersectionality: Women's experiences of education are influenced by various factors such as race, ethnicity, sexuality, and socioeconomic status. Therefore, intersectional perspectives are essential in understanding the complex issues surrounding women's education.
- Pedagogy: Teaching approaches that are gender-sensitive and culturally relevant can improve women's learning outcomes and promote their participation in education.
- International Development: Education is a critical component of international development efforts aimed at reducing gender inequality and poverty.
- Policy and Advocacy: Effective policies and advocacy efforts can improve access to education for women and girls and address gender inequalities in education.
- Research and Evaluation: Research and evaluation can provide insights into the factors that affect women's education, identify effective approaches to promoting women's education, and measure progress towards gender equality in education.

The transdisciplinary approach of the teaching tool was applied to the chosen topic from the above content and the semistructure interview of the 15 student teachers was analysed through thematic analysis.

Based on the qualitative data collected through semi-structured interviews with pre-service teachers who have been exposed to a transdisciplinary approach to teaching in their teacher education program, the following themes emerged:

1. Integrated and Holistic Learning: Many pre-service teachers highlighted integrating knowledge and practices from different disciplines as a key aspect

of the transdisciplinary approach. They reported that the approach allowed them to see the interconnectedness and relevance of various subjects in the real-world context of teaching. For example, a participant stated, "I learned how to connect concepts from different subjects and create meaningful learning experiences for my students."

2. Improved Collaboration and Interpersonal Skills: Participants emphasized that the transdisciplinary approach enhanced their collaboration and interpersonal skills. They reported that the approach required them to work collaboratively with peers from diverse disciplinary backgrounds, which helped them develop effective communication, teamwork, and negotiation skills. Participants also noted that the approach promoted a sense of community and shared purpose among them, as they worked towards common goals and engaged in collaborative problem-solving activities.

3. Authentic and Relevant Teaching: Participants noted that the transdisciplinary approach promoted authentic and relevant teaching practices. They reported that the approach encouraged them to use real-world examples and authentic tasks in their lesson plans and assessments. As one participant mentioned, "The transdisciplinary approach helped me create lessons that were relevant to my students' lives, and it made my teaching more authentic and meaningful."

4. Critical Thinking and Problem-Solving Skills: Pre-service teachers reported that the transdisciplinary approach enhanced their critical thinking and problem-solving skills. They mentioned that the approach required them to think critically and creatively to address complex issues and challenges. For instance, a participant shared, "Through the transdisciplinary approach, I learned how to analyze problems from different perspectives and come up with innovative solutions."

5. Collaboration and Interdisciplinary Pedagogy: Many participants highlighted the importance of collaboration and interdisciplinary pedagogy in the

transdisciplinary approach. They reported that the approach encouraged them to work collaboratively with colleagues from different disciplines, which enriched their learning experience. As one participant mentioned, "The transdisciplinary approach promoted collaboration and teamwork, and it helped me develop interdisciplinary teaching strategies that I can use in my future classroom."

6. Challenges with Integration and Implementation: Participants acknowledged that there were challenges associated with integrating and implementing the transdisciplinary approach in their teacher education program. They reported that it was sometimes difficult to integrate different disciplinary perspectives and practices in a meaningful and coherent way, and to align the approach with existing curriculum requirements and standards. Some participants also noted that they faced challenges in translating the transdisciplinary approach into their actual teaching practice during their field experiences and student teaching placements, due to factors such as time constraints and differing expectations from cooperating teachers.

7. Challenges and Limitations: Participants also identified some challenges and limitations of the transdisciplinary approach in teacher education. They mentioned that integrating different disciplines in their instruction required careful planning and coordination, and sometimes it was challenging to find resources and materials that supported the transdisciplinary approach. They also noted that some pre-service teachers struggled with letting go of their traditional disciplinary-based teaching practices and embracing a more integrated and holistic approach. However, despite these challenges, participants expressed overall positive perceptions of the transdisciplinary approach and its impact on their professional growth as future teachers.

Results:

The construct androgogical tool based on the transdisciplinary approach has the potential to help teachers-in-training develop a more comprehensive and holistic understanding of the problems they may face in their future teaching practice. By working in interdisciplinary teams and integrating knowledge and perspectives from multiple disciplines, teachers-in-training can develop a transdisciplinary mindset and skills that they can apply in their future teaching practice. Additionally, the tool promotes collaboration and communication skills that are essential for teachers to work effectively with colleagues and stakeholders.

Conclusion:

The findings of this thematic analysis suggest that the transdisciplinary approach in teacher education has several benefits, including integrated and holistic learning, authentic and relevant teaching practices, enhanced critical thinking and problem-solving skills, promotion of collaboration and interdisciplinary pedagogy, and encouragement of reflection and professional growth. While some challenges and limitations were identified, overall, pre-service teachers perceived the transdisciplinary approach as a valuable approach that positively impacted their knowledge, skills, and attitudes towards teaching. These findings have implications for curriculum design, pedagogical strategies, and professional development in teacher education programs, and highlight the potential of the transdisciplinary approach in preparing future educators for the complexities of teaching in the 21st century. However, challenges and limitations related to planning, coordination, and mindset shift were also identified. These findings provide valuable insights for teacher education programs, curriculum designers, and educators interested in implementing a transdisciplinary approach in their teaching practices, and highlight the need for continued research and professional development in this area.

References:

- Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. Review of research in education, 24(1), 249-305.
- Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? European Journal of Teacher Education, 40(3), 291-309.
- Reference:
- Cope, B., & Kalantzis, M. (2000). Multiliteracies: Literacy learning and the design of social futures. Routledge.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2),
- Creswell, John W. (2009) Research design: Qualitative, quantitative, and mixed methods approaches/John W. Creswell.—3rd ed. p. cm. Includes bibliographical references and index, 2009 by SAGE Publications, Inc.

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7 अध्ययनार्थीच्या सर्वांगीण विकासासाठी प्रभावशाली अध्ययन–अध्यापन प्रतिमान (Impression Model) : संकल्पनात्मक परिचय

डॉ. नगिना माळी

सारांश

प्रभावशाली अध्ययन, अध्यापन प्रतिमान हे नाविन्यपूर्ण होऊ शकते याचे कारण म्हणजे विद्यार्थ्यांच्या विचारांना आणि मतांना वाव देता येतो. शिवाय विद्यार्थ्यांच्या सहभागावर, सहअध्ययनास महत्त्व आहे. जॉन लॉक यांनी दिलेल्या या प्रतिमानामध्ये विद्यार्थ्याचा मेंदू हा कोरा असतो, त्याच्यावर ठसे उमटवण्याचे काम हे शिक्षकाचे असते. याचाच आधार घेऊन हे प्रतिमान विकसीत करण्यात आले आहे. हा प्रथम प्रयत्न आहे. तसेच या अंतर्गत प्रभावशाली अध्ययन अध्यापनाची गृहितके, पायऱ्या, पाठ टाचण तयार करून त्याचा वापर बी.एड.–एम.एड. (एकात्मिक) विद्यार्थी शिक्षकांवर करण्यात आला. मिळालेल्या प्रतिसादाचे विश्लेषण केले. तसेच नकारात्मक प्रतिसाद कसा सोडवता येईल, याविषयी विचार केला. अशा प्रकारे सदर प्रतिमानाची अंमलबजावणी करण्यात आली.

इम्प्रेशन मॉडेलचा (Impression Model) तात्विक आधार पाहता हे प्रतिमान असे मानते की, विद्यार्थ्यांचा मेंदू हा पूर्णत: रिकामा असतो. त्यावर आपण जे संस्कार करू त्या पद्धतीने त्याचा विकास होत असतो. शिक्षकांची अशी धारणा असते की, आशय अध्यापनासंदर्भात आपण जे अध्ययन अनुभव देणार आहोत, ते अनुभव विद्यार्थ्यांनी या आधी कधी घेतलेले नाहीत. अर्थात इम्प्रेशन मॉडेलमध्ये शिक्षक जे अध्ययन अनुभव देतील तेच अंतिम मानून विद्यार्थी शिकणार असतो व त्याच्या मेंदूवर यापूर्वी तसे अनुभव, अध्यापनाचे ठसे पडलेले नाहीत असे गृहितक धरले जाते.

NEP-2020 मधील प्रभावशाली प्रतिमानास लागू होणारे विचार –

प्रस्तुत प्रतिमानामध्ये मूलत: मानलेली गृहितके जशास तशी न घेता त्याचा संबंध ज्ञानरचनावाद व वर्तनवाद यांच्याशी जोडून हे प्रतिमान विकसीत केले आहे.राष्ट्रीय शैक्षणिक धोरण–२०२० असे सांगते की, विद्यार्थ्यांच्या बौद्धिक, भावनिक, कार्यात्मक, सामाजिक अशा सर्वांगिण विकासावर भर देणारे शिक्षण

पोस्ट डॉक्टरल फेलो, शिक्षणशास्त्र अधिविभाग, शिवाजी विद्यापीठ, कोल्हापूर

हवे. पण त्याचबरोबर देशाच्या मूल्यांचा, संस्कृतीचा वतत्वज्ञानाचा विसर पडता कामा नये. भारताच्या संस्कृती जपण्याच्या मार्गापैकी शिक्षण हा एक मार्ग आहे. त्या अंतर्गत अध्ययन–अध्यापन महत्त्वाची गोष्ट. विद्यार्थ्यांच्या सर्वांगिण विकासासोबत देशाच्या तत्वज्ञानाचा, संस्कृतीचा संस्कारही आवश्यक आहे. याचाच एक प्रयत्न म्हणून प्रभावशाली अध्ययन–अध्यापन प्रतिमान जे विद्यार्थ्यांच्यामध्ये सर्वांगिण विकासासोबत देशाच्या संस्कृतीचाही वारसा जपेल.

NEP-2020 **मधील सर्वांगिण विकास आणि इम्प्रेशन मॉडेल –**

तसे पाहता इम्प्रेशन मॉडेल विद्यार्थ्यांच्या अध्ययन–अध्यापनाच्या प्रत्येक टप्प्यावर सर्वांगिण विकासाचा विचार करते. विद्यार्थ्याच्या वैयक्तिक मताचा तर विचार करतेच, शिवाय गटात गेल्यानंतर सामाजिकीकरणावरही भर देते. अर्थात वैयक्तिक क्षमता या तयार होत असताना सामाजिक क्षमताकडे नेण्यात येते. आपल्या मुलांच्या मेंदूवर प्राथमिक स्तरापासून देशाची संस्कृती, सामाजिक मूल्ये, आसपास काय घडते, कसे घडते याचे निरीक्षण करण्यास सांगितले तर त्याचा प्रत्यक्ष अध्ययनात वापर म्हणजे अध्ययनात सोपेपणा येतो. जगामध्ये अनेक विचारवंत, तत्ववेत्ते, शास्त्रज्ञ, संशोधक एखाद्या विशिष्ट विचाराने प्रभावित असतात.त्याचा ध्यास घेतात, त्यांना त्याविषयी पूर्वअनुभव असेलच असे नाही, संपूर्ण माहिती असेलच असे नाही. पण नवज्ञान निर्मितीसाठी ते झटतात, पाहतात आणि अंतिम निष्कर्षापर्यंत येतात. ते केवळ विशिष्ट बाबींनी, विचारांनी प्रभावित झाल्यामूळे या बाबीही प्रभावशाली प्रतिमानात ग्राह्य मानल्या आहेत.

इम्प्रेशन मॉडेल : तात्विक व मानसशास्त्रीय आधार –

या प्रतिमानाचे मूळ उद्गाते जॉन लॉक आहेत. विद्यार्थी हा पूर्णत: कोरा असतो. त्याचा मेंदू आपण शिक्षक म्हणून जे अनुभव देणार, तो ते घेणार असतो व यातून त्याचा विकास होणार, असे मत जॉन लॉक यांचे होते.

१) स्वरूप चंडी यांनी त्यांच्या Constructionism in Teaching and Learning in Indian Context : Content -nalysis and Evaluation या संशोधनपर लेखामध्ये असे मांडले आहे की, ज्ञानरचनावादी दृष्टीकोन हा विद्यार्थी केंद्रीअसून त्यामध्ये विद्यार्थी सक्रिय अध्यनार्थी असतो.

२) वैशाली आणि प्रदीप कुमार मिश्रा यांच्या Teaching Teachers to use constructionist -pproaches : - Proposal या रिव्ह्यु पेपरमध्ये असे मत स्पष्ट केले आहे की शिक्षकांना अध्यापनशास्त्रीय ज्ञान असणे आवश्यक आहे. व्यावसायिक उन्नतीसाठी ज्ञानरचनावादी दृष्टीकोन

वापरणे आवश्यक आहे.

३) अंकूश बनसोडे आणि पी.एस. पाटणकर यांच्या Review of Researches on Constructivist approach या संशोधनपर लेखामध्ये असे मांडले आहे की, ज्ञानरचनावाद हा विद्यार्थी केंद्री असून छउक्ष-२००५ या मूलत: त्यास मानणाराच आहे. म्हणून शिक्षकांनी विविध ज्ञानरचनावादी कार्यनिती वापरून अध्ययन-अध्यापन आनंददायी करावे.

४) वुबांते मेकोनेन यांच्या Review Behavioristic approach and the Constructing Knowledge या संशोधनपर लेखात असे मांडले आहे की, वर्तनवादी उपपत्तीही निरीक्षणीय व मापनीय असते. विशिष्ट वातावरणात वर्तन बदल घडतात. ही उपपत्ती पॅव्हलोव्ह, स्किनर, वॅटसन आणि थॉर्नडाईक यांच्या विचारांचे योगदान आहे. अध्ययन प्रक्रिया ही एखादी घटना/वस्तू व त्यास दिलेला प्रतिसाद यामध्ये दिसून येते. म्हणून वर्गामध्ये विद्यार्थ्यांना वेगवेगळ्या कृती द्याव्या. म्हणूनच श्रवण, भाषण, वाचन व लेखन यास पूरक कृती द्याव्यात.

५) फॅब्रियन गुन्हार्स यांच्या – large Scale Systematic Review Relating Mechanism to Research of Digital Technology in Primary Education या संशोधनपर पेपरमध्ये असे स्पष्ट केले आहे की वर्तनवादी पद्धती या प्रेरणेवर आधारित असतात.

इम्प्रेशन मॉडेलची गृहितके –

सध्या ज्ञानरचनावादानुसार विद्यार्थी वास्तवत: हा कोऱ्या पाटीप्रमाणे नसतो. तो स्वत:च्या ज्ञानाची रचना स्वत: करतो. त्याला ती करता येते. तसे अनुभव शिक्षकांनी/सुविधाकर्त्यांनी द्यावेत, तसे वातावरण निर्मिती करून ज्ञाननिर्मिती व्हावी, अशी अपेक्षा असते. मात्र इम्प्रेशन मॉडेल यापेक्षा वेगळे गृहितक मानते. ते विद्यार्थ्याच्या ज्ञानरचनावादाच्या काहिसे विरोधी दिसते. पण सद्यस्थितीत इम्प्रेशन मॉडेलला वर्तनवादाचा आणि ज्ञानरचनावादाचा आधार दिला तर हे मॉडेल शालेय पातळीवर वापरण्यास सोयिस्कर ठरते.

इम्प्रेशन मॉडेलमध्ये वर्तनवादी विचारसरणी आणली तर असे करता येईल की, विद्यार्थ्याच्या वर्तनात शिक्षकांच्या मार्गदर्शनाने, प्रयत्नाने बदल होऊ शकतो. अपेक्षित वर्तन बदल घडत असताना विद्यार्थी चूकांतून शिकणार असतो. आपण अध्ययनात वारंवार केलेल्या चूकांतून त्याला अनुभव मिळून तो शिकणार असतो. तीच गोष्ट वारंवार स्वत: केल्याने, प्रयत्नांदरम्यानचे ठसे विद्यार्थ्याच्या मेंदूवर उमटणार असल्याने त्याच्या वर्तनात दिर्घकालीन बदल दिसणार आहे. ज्ञानरचनावादाचा आधार इम्प्रेशन मॉडेलला दिला असता

असे म्हणता येईल की, विद्यार्थ्याला अध्यापनादरम्यान कृतीयुक्त बाबी देणे, वैयक्तिक मार्गदर्शन, वैयक्तिक सराव, गटकार्यात त्यास गुंतवणे या बाबी केल्याने विद्यार्थ्याची ज्ञानरचना होते. शिवाय सुविधादाता म्हणून शिक्षक भूमिका पार पाडणार असतात. येथे शिक्षकांनी केवळ अध्यापन न करता आवश्यक त्या सोई-सुविधा पुरविणे गरजेचे ठरते. ज्ञाननिर्मितीसाठी आवश्यक वातावरण निर्मिती, सुरक्षित वातावरण निर्मिती या भूमिका शिक्षकांच्या असल्याने विद्यार्थी व शिक्षक संबंध सुधारणार असतात. अशा कृतीतूनही शिक्षकांचा प्रभाव विद्यार्थ्यांवर पडतो.

इम्प्रेशन मॉडेल ही एक अध्यापन पद्धती म्हणून वापरात येऊ शकते. आशयास व्यवस्थित आरेखित केले तर इम्प्रेशन मॉडेल योग्य प्रतिसाद देऊ शकेल. प्रस्तुत लेखामध्ये इम्प्रेशन मॉडेलच्या पायऱ्या देण्यात आलेल्या आहेत. तसेच सदरचे प्रतिमान बी.एड्.-एम्.एड्. (एकात्मिक) कार्यक्रमातील सत्र- ५ साठी वापरण्यात आले आहे. आंतरवासिता कार्यक्रमांतर्गत प्रायोगिक तत्वावर त्याचा वापर केला गेला. त्यामध्ये संशोधकांनी इम्प्रेशन मॉडेलची पार्श्वभूमी, वापरावयाच्या पायऱ्या, त्याचा मानसशास्त्रीय पाया समजावून दिला. विद्यार्थी शिक्षकांनी त्यांच्या अध्यापन पद्धतीनुसार प्रतिमानाच्या पायऱ्या वापरून पाठ टाचण तयार केले. त्यावर मार्गदर्शन देण्यात आले. दुसऱ्या टप्प्याअंतर्गत याच विद्यार्थी शिक्षकांनी श्रीमती महाराणी ताराबाई शासकीय अध्यापक महाविद्यालय, कोल्हापूर यामधील विद्यार्थी शिक्षकांना हे पाठ टाचण कसे काढायचे यावर मार्गदर्शन केले. दरम्यान प्रतिमानाची पार्श्वभूमी, मानसशास्त्रीय आधार व गरज समजावून दिली. बी.एड्.च्या विद्यार्थी शिक्षकांनीही त्याचा वापर शालेय पातळीवर केला व शिक्षणशास्त्र अधिविभागातील बी.एड्.-एम्. एड्. (एकात्मिक) सत्र-५ च्या विद्यार्थ्यांनीही शालेय पातळीवर उपयोग केला. प्रश्नावलीद्वारे त्यांच्याकडून नोंदविण्यात आलेला प्रतिसाद असा आहे -

१. प्रतिमान नाविन्यपूर्ण वाटते.

२. विद्यार्थी गुंतवणुकीसाठी योग्य आहे.

३. वेळखाऊ पण याद्वारे अध्यापन केल्याने आशय स्पष्टीकरण होते.

४. विद्यार्थ्याचा विचार केला असल्याने विद्यार्थी केंद्रीत प्रतिमान आहे.

५. शैक्षणिक अनुभवावर विचार करण्यास प्रेरणा मिळते.

६. प्रत्येक पायरीवर नविनता वाटते.

७. शिक्षक व विद्यार्थी दोघेही महत्त्वाचे आहेत.

८. अनुभव दिर्घकालीन टिकणारे मिळतात.

९. विचार करण्यास प्रेरणा देते.

१०. गटकार्यावर भर असतो.

११. वैयक्तिकतेकडून सामाजिकीकरणाकडे जाता येणारे प्रतिमान आहे.

१२. गटात विचार मांडण्यास वाव मिळतो.

१३. चूका सुधारण्यास वाव मिळतो.

१४. ज्ञानाचा पडताळा घेता येतो.

१५. अनुभवविश्व सुधारता येते.

१६. विचार मांडणीवर भर आहे.

१७. कोणताही विषय प्रतिमानात बसवता येतो.

तसेच नकारात्मक प्रतिसाद पाहता –

१. वेळखाऊ प्रतिमान वाटते.

२. शिक्षकांचे अनुभव समृद्धीकरण असणे गरजेचे आहे.

३. संपूर्ण अभ्यासक्रम याने शिकविता येणार नाही.

वरील सकारात्मक व नकारात्मक प्रतिसाद पाहता या प्रतिमानात नकारात्मक बाबी टाळता येऊ शकतात. अभ्यासक्रम पूर्ण करणे हे शिक्षकांचे काम नसून अभ्यासक्रम विद्यार्थ्याने स्वत: कसा शिकावा यासाठी वातावरण निर्मिती करणे, हे मुख्य कार्य आहे. अध्ययन–अध्यापनादरम्यान शिक्षकांनी अध्ययन अनुभव देणे आवश्यक आहे. तसेच ते मिळविण्यासाठी प्रयत्नशिल असावे, हे गृहितक सर्वमान्य आहे.

प्रतिमानाच्या अंमलबजावणीची प्रक्रिया (Implementing Process of the model)

Phase - I

प्रतिमानाच्या पायाचे आकलन (Understanding of foundation of model.)

तज्ज्ञांशी चर्चा (Discussion with experts)

पायऱ्यांची निश्चिती आणि तज्ज्ञांसोबत चर्चेद्वारे बदल (Defining the phases and modification by discussing with experts)

प्रतिमानाच्या अंमलबजावणीसाठी आशयाचे आरेखन (Drafting the content for implementing the model)

Phase - II

विद्यार्थी शिक्षकांची निवड (Selection of the student teachers)

इम्प्रेशन प्रतिमानाची ओळख (Orientation of the impression model)

प्रतिमानाचे सादरीकरण (Demonstration of the model)

Phase - III

विद्यार्थी शिक्षकांकडून आशयाची निवड (Selection of the content by student teachers)

उद्दिष्टांची रचना (Objective drafting)

आशयाचे प्रतिमानामध्ये आरेखन (अध्ययन नियोजन) (Designing (Learning plan) the content into model)

तज्ज्ञांद्वारे तपासणी (Checking by experts)

Phase - IV

बी.एड्. प्रशिक्षण महाविद्यालयाला भेट (Visit to B.Ed. training college)

बी.एड्. विद्यार्थी शिक्षकांना बी.एड्.–एम.एड्. (एकात्मिक) शिक्षकांकडून प्रतिमानाची ओळख (Orientation given by B.Ed.-M.Ed. (Int.) about the model to B.Ed. student teachers)

बी.एड्. विद्यार्थी शिक्षकांकडून पाठ नियोजनाचे आरेखन (Drafting the learning plan by B.Ed. student teachers)

बी.एड्.–एम.एड्. (एकात्मिक) विद्यार्थी शिक्षकांकडून आरेखन तपासणी (Draft checking by B.Ed.-M. Ed. (Int.) student teachers)

बी.एड्. विद्यार्थी शिक्षकांकडून अध्ययन नियोजनाची शालेय विद्यार्थ्यांवर अंमलबजावणी (Implementing of plan on school students by B.Ed. student teachers)

बी.एड्. विद्यार्थी शिक्षकाकडून प्रत्याभरण (Feedback from B.Ed. Student teachers)

Phase - V

बी.एड्.–एम.एड्. (एकात्मिक) विद्यार्थी शिक्षकांकडून आंतरवासिता कार्यक्रमाअंतर्गत इम्प्रेशन प्रतिमानासाठी आशयाची निवड (Selection of the content for impression model under internship program by B.Ed.-M.Ed. (Int.) student teachers)

अध्ययन नियोजनाचे आरेखन आणि निश्चिती (Designing and drafting of the plans)

बी.एड्.–एम.एड् (एकात्मिक) विद्यार्थी शिक्षकाकडून शालेय विद्यार्थ्यांवर अंमलबजावणी (Implementing on school students by B.Ed.-M.Ed. (Int.) student teachers)

Phase - VI

बी.एड्.–एम.एड (एकात्मिक) विद्यार्थी शिक्षकाकडून अनुभवांची देवाणघेवाण (Sharing of experiences by B.Ed.-M.Ed. (Int.) student teachers)

इम्प्रेशन मॉडेलच्या पायऱ्या संशोधकांनी पुढीलप्रमाणे विकसित केल्या आहेत – (Syntax of Impression Model)

पायरी क्र.	पायरी	शिक्षक इम्प्रेशन (TI)	विद्यार्थी इम्प्रेशन (SI)	पायाभूत घटक	संबधीत उपपत्ती
१	उद्बोधन (पाठाविषयी थोडक्यात आढावा)	(आशयाविषयी सर्वसाधारण माहिती स्पष्ट करणे) पाठामधून कोणत्या संकल्पना अभ्यासावयाच्या आहेत, त्याची गरज काय याची थोडक्यात माहिती देणे.	सारांश ज्ञान	Focus (उद्देश बिंदू) (Create Impression)	वर्तनवादी उपपत्ती
२	अभ्यासक्रम चौकट स्पष्ट करणे	या पायरीत शिक्षक विद्यार्थ्याकडून (आशयामार्फत) असणाऱ्या अपेक्षा स्पष्ट करतील अध्ययनकृती कोणकोणत्या कराव्या लागतील हे स्पष्ट करतील विद्यार्थ्याचे उत्तरदायित्व सांगतील आशयासंदर्भात कोणत्या मार्गाने विचार करावा हे सांगतील	अभ्यासक्रम आराखड्याचे ज्ञान	Sequence of Steps (Create Impression)	वर्तनवादी उपपत्ती
३	सादरीकरण पायरी /करणे	– शिक्षक आशयातील सर्व संकल्पना स्पष्ट करतील – आवश्यक ती आधार प्रणाली वापरतील – शैक्षणिक साहित्य वापरतील – नविन कौशल्य उदाहरणासह स्पष्ट करतील – संकल्पनांचा वापर कसा करावा हे दिग्दर्शन करतील	श्रवण आणि निरीक्षण	Support System (Experiences given to students Impression)	वर्तनवादी उपपत्ती
४	वैयक्तिक सराव	– पाठास अनुरूप वैयक्तिक कृती देण्यात येतील – कृतीदरम्यानचे पर्यवेक्षणाचे काम शिक्षक करतील – विद्यार्थी विचार प्रक्रियेस (पायरी क्र.२) चालना देतील – आवश्यक तेथे मार्गदर्शन करतील – वैयक्तिक विचार जागृत घेतील	वैयक्तिक विचार	Principles of Reaction (Learning Process) the sense organs & Principle of language	ज्ञानरचना–वादी दृष्टीकोन

५	संरचित सराव	– विद्यार्थ्याने वैयक्तिकरित्या केलेला विचार गटात सांगतील – अपेक्षित अभ्यासक्रम चौकट (पायरी क्र. २) निर्माण झाली का ते शिक्षक तपासतील – अपेक्षित तो वर्तनदबल तपासतील	गट/समुह विचार	The Social System (Principles of Language and Communication)	ज्ञानरचना–वादी दृष्टीकोन
६	कारणमीमांसा सूत्रीकरण	– विद्यार्थ्यांकडून त्यांनी केलेल्या गटचर्चे तून बाहेर आलेल्या फलिताच्या वापरावर विद्यार्थ्यांकडून कारणमिमांसा करून घेतील	कारणमीमांसा	Principles of Reaction (Teacher's Ability)	ज्ञानरचना–वादी दृष्टीकोन
७	उपयोजन	– विद्यार्थी व शिक्षक यांच्यात झालेल्या चर्चेतून व फलितांच्या उपयोजनाबाबत क्षेत्रे समजून घेतील – स्मरण, उपयोजन कौशल्यावर आधारित कृती देण्यात येतील	दैनंदिन जीवनात उपयोजन	Application (Impression)	वर्तनवादी उपपत्ती आणि ज्ञानरचना–वादी उपपत्ती

सारांश –

इम्प्रेशन मॉडेल ही अध्ययन–अध्यापनाची नाविन्यपूर्ण पद्धती होऊ शकते. ज्ञानरचनावाद व वर्तनवाद या दोहोंचा समन्वय व्यवस्थितरित्या केला तर शिक्षण आनंददायी करता येईल. ज्ञानरचनावादाचा विद्यार्थी स्वत:च्या ज्ञानाची रचना स्वत: करू शकतो व वर्तनवादाच्या चूकांतून विद्यार्थी वर्तनामध्ये सकारात्मक बदल करता येतो. या गृहितकांचा आधार घेऊन इम्प्रेशन मॉडेल वापरता येते. प्रस्तूत प्रतिमानाच्या पायऱ्या व विकसित केलेले अध्ययन–नियोजन वापरले तर दैनंदिन अध्ययनही सोयिस्कर होऊन इम्प्रेशन मॉडेल एक नविन उपक्रम ठरेल.

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GUIDELINES FOR CONTRIBUTORS

1] **Journal of Shivaji University (Humanities and Social Sciences)** is the publication of Shivaji University, Kolhapur (Maharashtra, India), being published twice a year. It is an academic double blind and peer reviewed ISSN approved Journal.

2] The Journal welcomes articles/papers based on original research by the faculty and research scholars working in various fields of Arts, Education, Law Social Science disciplines, Languages and Literature [Marathi, Hindi and English]. Articles/Papers can be submitted in English, Hindi or Marathi.

3] The **length** of the article/research paper **should not exceed 5000 words** (word limit is inclusive of references and notes).

4] The article/paper must accompany an **abstract not exceeding 200 words.** Abstract should be placed in the text box just below the title of the article and before Introduction on first page.

5] Article/research paper must be typed on A-4 size paper in double space. The preferred word-processing format is Microsoft Word [use Times New Roman, 12 pt. font size].The authors writing their contributions in Marathi and Hindi are requested to make use of **'Shrilipi'** software for typing of the manuscripts. [Use Shrilipi 708, 14pt. font size].

6] All the sources of literature referred to while writing the article/paper must be properly cited in the text. The serial numbers of End Notes, if any, must also be indicated within text at appropriate places.

7] The listing of references must follow the alphabetical order as per APA style.

8] Follow the endnote pattern: Serialize all explanatory notes in the sequence in which they are referred to in the text (using numbered superscripts) and place them at the end of the text under **Notes**, but **before References**. Endnotes must not be used for bibliographic purposes.

9] Tables, charts, maps, figures etc. should be placed at appropriate places in the text of the article/paper and must be numbered serially with suitable headings. The tables should be referred to by their numbers within the text. Art-work for maps, figures and charts should be provided separately, if necessary.

10] Only articles evaluated and approved by the subject Experts/Referees are considered for their publication in the Journal. The referees evaluate Article/ Paper drafts in term of structure and organization of paper/argument, originality of the research, appropriateness of abstract and introduction, literature review, methodology and data sources, data/evidence and conclusions, and quality of language.

11] The name of the author/co-author of the article being submitted should appear only on separate article information sheet to be submitted along with the text of the article. The author's/Co-author's name should not be mentioned on the first page of the article/paper or it should not be directly or indirectly indicated anywhere in the entire text of the article'

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Only research articles/papers prepared strictly in accordance with the above guidelines will be sent to referees for their evaluation and opinion about their acceptability or otherwise. We do not send back rejected articles.