



DEVELOPMENT OF VIRTUAL COLLABORATIVE RESOURCE SHARING MODEL IN TEACHER EDUCATION PROGRAM

Ms. Kalpana Chavan

Asst. Professor, St. Xavier's Institute of Education

Abstract :

The DEEP (Designing, Engaging, Exploring and Performance) Model is conceived for making the collaborative resource sharing in online mode effective. The online classes were the need of the times during the lockdown, and the old VUCA times of Volatile, Uncertain, Complex and Ambiguous times need new VUCA of Vision, Understanding, Clarity and Agility. The researcher kept in mind especially the lockdown times and the upsurge of virtual classrooms, the need for making virtual classes learner centric and engaging. In the era of Open Learning Resources (OER) and resource sharing with education evolving to 3.0 and 4.0 versions the DEEP Model was developed for the pre-service teachers to experience teaching in online mode and in collaborative settings. Moreover, the author with the collaborating faculty has explained the process of virtual collaborative resource sharing between the two Institutes. The collaborative resource sharing started with designing, planning and framing the resource sharing policy agreed upon by the two Institutes. The collaborating faculty used the theoretical basis of Community of Inquiry, Self-directed learning, Learner empowerment, Design Thinking, Revised Bloom's Taxonomy and Technology. Pedagogy and Content Knowledge (TPACK). The Model also gave importance to reflective pedagogy and stimulated reflective writing amongst the students. The collaborations were scaffolded with the help of student centric teaching approaches like inquiry based, problem based and experiential learning. The Model in its designing to performance kept in mind the social values and individual empowerment. The quality education for maximum number of students was the crux of the DEEP Model for deep learning.

Key words : *Development of Model, DEEP, collaborative resource sharing, teacher education.*

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

Introduction :

The virtual teaching was the need of the hour during the pandemic of the covid-19 and different online platforms and e-tools mushroomed at a rapid rate. Technology took the centre role in pedagogical transaction, but technology as was already known is not a substitute for the teacher and teaching. This was even so more felt when only online teaching became a channel of transacting syllabus. It was felt by the collaborating teacher educators that certain skills and techniques are required to make technology an educational tool for connection and transformation.



Technology is neither a promotor nor an inhibitor of pedagogy, on the contrary it plays a neutral role in teaching-learning process. Technology is an instrument or a tool in hands of the teacher and how it is wielded is a skill and an art. The analogy that strengthens this thought is that technology is like a knife, which by itself is neutral, it depends on who and how it is used for constructive purpose. A knife used by a surgeon to save a patient's life, can be destructive in hands of an anti-social element of the society. The faculty members of the two Colleges of Education wanted to make the virtual classroom a platform of making teaching-learning constructive and for developing skills of critical pedagogy.

The pandemic of Covid -19 encouraged discovering effective ways of connecting to students not only with the cognitive and teaching presence but also make the social presence of the teachers felt. The Community of Inquiry theory by Garrison inspired the teacher educators to develop a model of collaborative resource sharing to accentuate the social presence rather than just transacting the course work using the virtual platform and e-learning tools.

Theoretical Basis of the DEEP Model :

The development of a model for Collaborative Resource Sharing was based on theoretical basis of self-directed learning, knowledge creation and Integration of Technological, Pedagogical and Content knowledge (TPACK). The theoretical understanding of Self-directed learning, Learner Empowerment, Design Thinking, Outcome based approach and Community of Inquiry were studied and applied for making the DEEP Model. The reflective and critical pedagogy were used for developing higher order thinking as well as to make the students connect the course with their life experiences.

The Self-directed Learning theory contributed towards goal setting, personal responsibility, readiness to learning, examining the outcomes achieved. The learner empowerment theories brought out the importance of choice, impact, meaningfulness and competence. The Community of Inquiry drew attention to the social, teaching and content presence. The Design Theory directed attention to factors of empathy, ideation, and testing. The Critical Pedagogy helped to plan the teaching strategies and reflective pedagogy helped in making guided reflective questions.

Higher education aims at envisioning different avenues to equip adult learners with skills of higher order thinking. In the field of teacher education, it becomes but imperative that the teacher educator explore ways of unfolding newer teaching methods to the prospective teachers. The teacher educators of the two colleges focused on developing a model in such a way that it included the phases from context based designing to achieving the learning outcomes. The model aimed at making the teachers and students connect to the course by transferring knowledge at a deeper level of understanding. The collaborating faculty also aimed to set forth an example of how pre-service teacher can make online teaching team teaching and resource sharing an empowering tool for themselves and later for their students.

The development of the DEEP (Designing, Engagement, Exploration and Performance) Model was an intensive process and was deliberated by the two collaborators with the help of frequent meetings online as well as using collaborative google tools like google docs, spreadsheets, and forms. The experience of virtual deliberations was novel for the teacher educators too but set the basis for developing the model for virtual collaborative resource sharing.



The Collaborative resource sharing was between St. Xavier’s Institute of Education and Bombay Teachers’ Training College. The Two colleges shared the virtual platform where the faculty from both the colleges and students of semester four for a common theme of Module 1 unit 2 on stratification of the society from the core course Contemporary India and Education.

The model for virtual collaborative resource sharing was known as DEEP Model of Collaboration. The acronym DEEP stood for Designing, Engagement, Exploration and Performance with regards to the virtual collaborative resource sharing.

The visual representation can make the DEEP model clearer :-

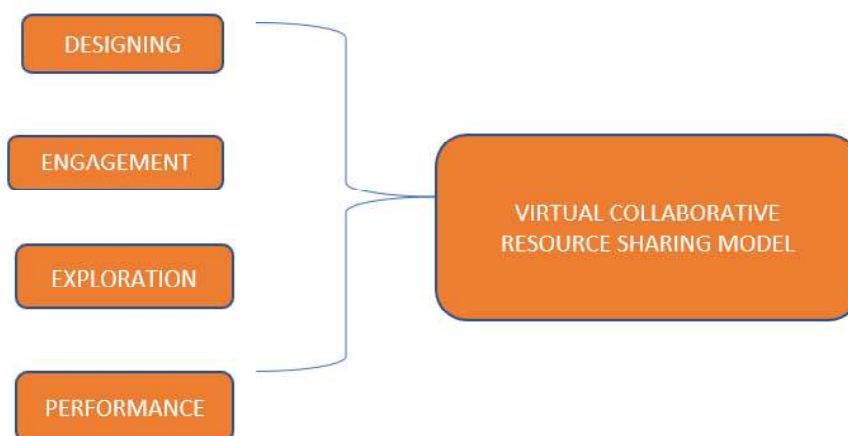


Fig. 1 Visual Representation of Model of Virtual Collaborative Resource Sharing

1. **Collaborative Designing** : The designing of the learning units was done by the faculty together. The unit outcomes were based on higher order thinking skills, especially based on Revised Bloom’s Taxonomy. The goal setting, resources to be shared was planned based on context analysis of the learners and the learning environment. The E-learning designing was structured with resource pooling and sharing of ideas. The environment was that of respect, tolerance, and open communication. The shared goals which are clearly defined are needed for a good collaboration.
2. **Collaboration Engagement** : The planning done by the faculty was then oriented to students. An online pre-survey form to understand the perception of the students was given to both the college students to gauge the group thinking. After the analysis the unit was delivered with student – centered activities like analysis of multi-media, metaphor representation, image analysis. Both the faculty used questioning, probing and discussion methodology to make the students analyze, evaluate, apply to real world situation and supply their own examples.
3. **Collaborative Exploration**: Even if the session transaction was online, the two faculty had planned for small group activities. The break-out rooms were based on the principle of positive inter-dependence and cooperation. The task completion required sharing and assimilating new ways of thinking and task completion as a group.



4. **Collaborative Performance:** The collaborative performance on level of the faculty was the implementation of the activities and sharing their expertise as designed and planned. The plan was executed with the learning outcomes in mind as well as role distribution. It was based on the principle of team teaching, with respecting individual space as well as working as a team.

The virtual collaborating resource sharing is not only the need of the times but also a democratic and equitable way of making education accessible, equitable and quality uncompromised. In remote areas, rural context, even in urban areas but with limited resources, this model can make an integrated and well planned way of teaching.

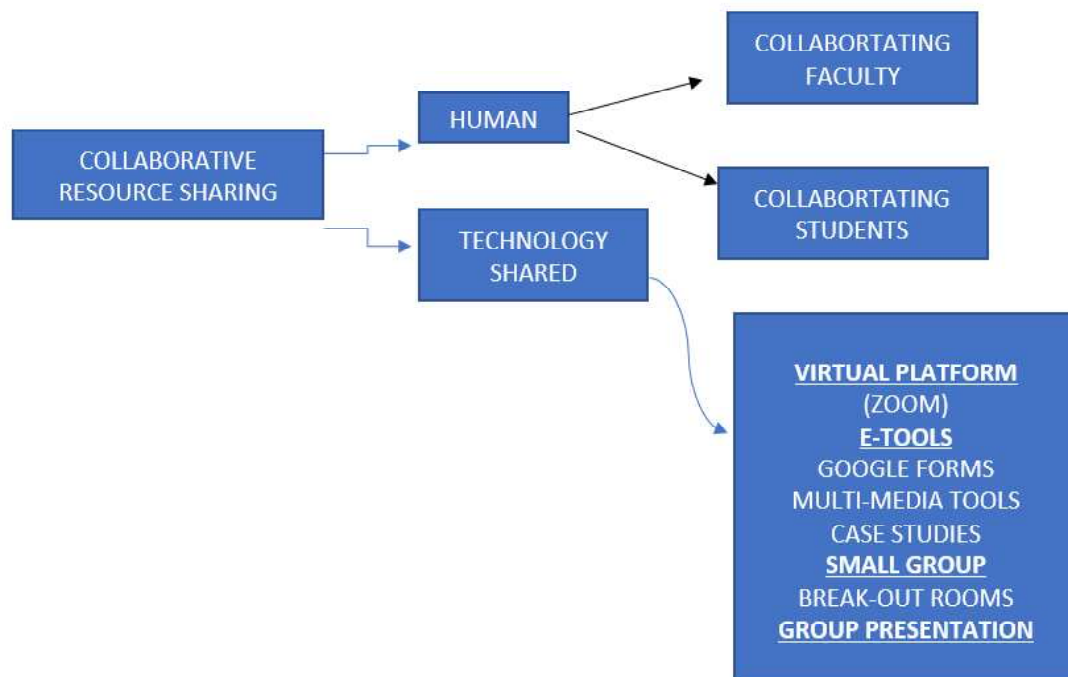


Figure 2 : Representation of Collaborative resource sharing

Thus, the DEEP Model was developed by the two educators for making resource sharing into an optimum way for making teaching learning process interesting. The collaborating research faculty also felt that as the pre-service teachers as a part of their Project Based Course have to conduct team teaching with co-operating schoolteachers as well as with their peers, so this type of resource sharing of knowledge, skills and technology will be a guiding model for the pre-service teachers. The National Policy of Education 2020 recommends research collaborations and resource sharing. The resource sharing especially technological spaces and learning ecology if shared, then the society will be able to handle other epidemics, or pandemic and be flexible even in the uncertain and volatile times. The two teacher educators for future would work on the pre-service teacher's perception to the DEEP Model of collaborative resource sharing. The feedback analysis and reflective writing along with reflexivity of the faculty will be a stimulator for editing, modifying, or sustaining the DEEP model.

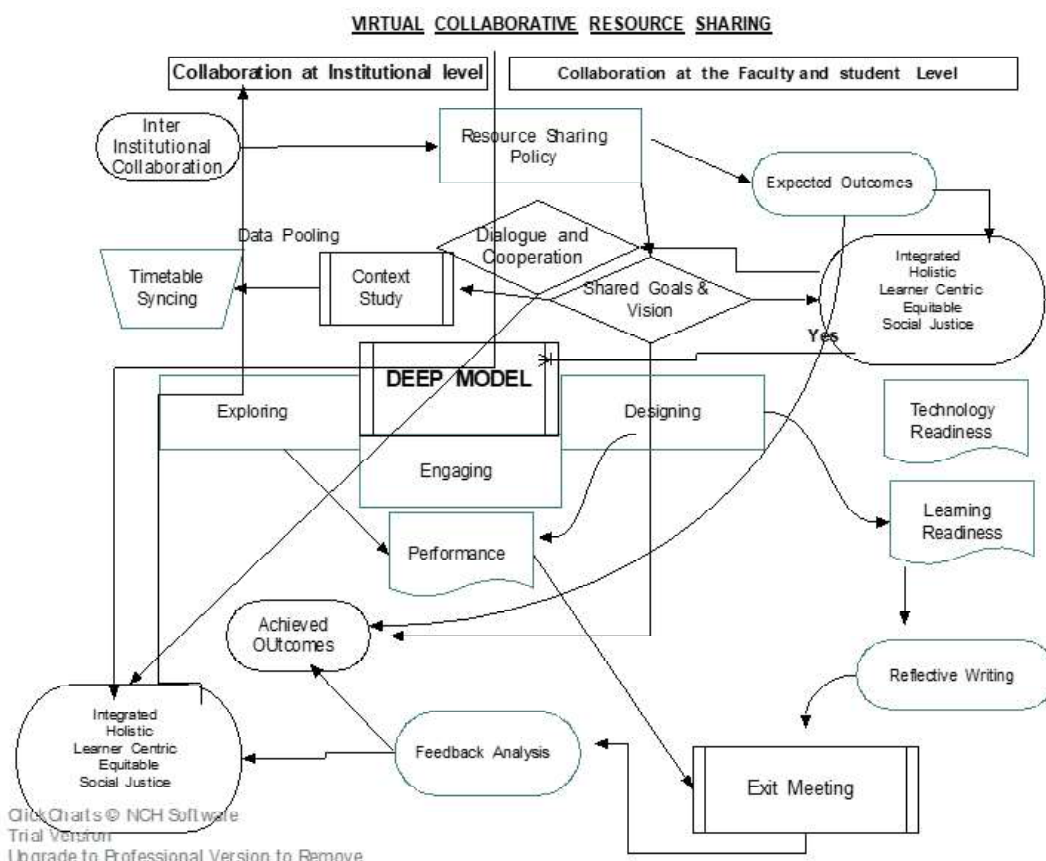


Fig 3 : Graphic Representation of the Virtual Collaborative Resource Sharing

Conclusion :

To conclude, the researcher compiled the reflexive writings to deduce the recommendations for making the DEEP Model applicable and feasible in different contexts. These recommendations suggests the foundation of the Model as well the expansion and interconnectedness with expected outcomes and achieved outcomes with values interspersed.

The recommendations by the researchers for the effective use of model were :-

Resources	Stakeholders	Recommendations
Human resource	Students	Learning readiness Technology Readiness Dialogue and interaction



	Faculty	Interdependence Positive attitude Sharing common goal and vision Leadership and risk-taking Technology readiness Flattening the hierarchy
Technology Resource	Institutional , faculty	Technology Accessibility Sharing technology platforms Skills for using technology
Teaching Methodology used	Faculty and students	Student centric Inquiry based Problem based Reflective pedagogy
Learning Climate	Faculty and students	The learning climate must be democratic and non-judgmental. Mutual respect and tolerance for different perspectives Conflict resolution.
Collaborative resource sharing	Institutional	The resource sharing policy has to be formulated by both the colleges and initial and exit meeting held for deliberations and decisions.

Acknowledgement :

The author wishes to thank St. Xavier's Institute of Education and Bombay Teachers' Training College for the opportunity and academic freedom for conducting the virtual collaborative model of resource sharing.

The author acknowledges the contribution of the late Dr Lubna Mansuri from the conception to development of the DEEP Model.

References :

1. Baldwin, Roger G., and Deborah A. Chang. "Collaborating to learn, learning to collaborate." *Peer Review*, vol. 9, no. 4
2. Bess, James L. (2000) *Teaching alone, teaching together: transforming the structure of teams for teaching.* San Francisco : Jossey-Bass,



3. Darling-Hammond, L. (2006). *Powerful teacher education*. San Francisco: Jossey-Bass
4. Davis, James R. *Interdisciplinary Courses and Team Teaching*. Phoenix: American Council on Education/Oryx Press Series on Higher Education, 1997.
5. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.665.5907&rep=rep1&type=pdf>
6. Loughran, J. (2006). *Developing a pedagogy of teacher education*. New York: Routledge.
7. Portelance, L. & Gervais, C. (2009). Analysis of the dynamics of the sharing knowledge between cooperating teacher and teacher-in-training: The partners' respective roles. *US-China Education Review*, 6(6), 71-80.
8. Samimi-Duncan, S. & Duncan, G.W. & Lancaster, Julie. (2010). The factors that facilitate and impede collaboration between pre-service teachers during a paired-practicum in a school-based environment. *International Journal of Learning*.
9. Van Zee, E. H., Lay, D. & Roberts, D. (2003). Fostering collaborative inquiries by prospective and practicing elementary and middle school teachers. *Science Education*.

Cite This Article:

Ms. Kalpana Chavan, (2022). Development of Virtual Collaborative Resource Sharing Model in Teacher Education Program. Aarhat Multidisciplinary International Education Research Journal, XI (I), 151-157