

EVOLVING A LEARNING COMMUNITY THROUGH SYSTEMS THINKING

By

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ABSTRACT

Systems thinking plays a key role in producing the understanding of a big picture - a broader view of looking at the overall system needed to develop a learning community more effectively. Practical expectations to improve the functioning of Human systems, which is called teacher preparedness, on identifying possible interventions, relate at description and partial evaluation of how the systems work have been detailed. This paper also circumscribes linguistic situations and considers individual differences, reluctance for a pedagogical change and administration as interventions in a specific human learning system of importance in education during teacher training. Thereby, an Intervention Solving Protocol [ISP] was addressed to the following problem: How can we improve a learning community of students enrolled in teacher training?. In what follows, intervention-solving protocol called ISP explicates the interventions to bring about a transformation to attain the desired state of linguistic education, improved communication and enhanced thinking.

INTRODUCTION

The complexity of school, society and technological system is continuously increasing at a rapid speed. And in course influences the magnitude of factors in teacher preparedness. The teachers in order to evolve, are in need of being informed, organize communications, obtain and apply knowledge, and make transformations possible. Betty Cooper (1998) defines teachers as a learning community in terms of the transformation activities in which they are involved to facilitate effective and efficient learning for (a) their own purposes, (b) the purposes of the people in the system, and (c) the purposes of the larger system of which they are part. In each case, its possible to identify some such factors, but there are many other non-identifiable factors which influence each other.

On this aspect system thinking could fully account for the properties of the whole and the characteristics and relationship of all parts in interaction. Therefore, an important activity in modeling a system is the elicitation, articulation and description of factors influencing system experts, where the trainees and trainers, who participate in the process are directly in operational or managerial

roles.

Rationale

The study was taken up to understand Systems Influence on

- Dynamism of human behavior
- Team work, and
- Development of Learning Society

Induction program

To understand systems influence on the dynamics of human behavior, teamwork, and development of learning society, system thinking can be applied and evaluated as a methodology-independent tool. Thereby, an Intervention Solving Protocol [ISP] corresponding to the procedure introduced by Checkland (1981) was applied to a learning community of teacher trainees enrolled in English methods.

The teacher trainees enrolled for English methods were considered as the learning community of the teacher training program running at Faculty of Education, University of Vanasthali, Rajasthan, India. In order to facilitate learning process amongst teachers in English language, five aspects of ISP [Intervention Solving

Protocol] remained as focus. They were;

- Recognition of system elements,
- Working conditions,
- Intended solutions of interventions,
- Monitoring & Management Mechanism,
- Reviewing of earlier steps.

Aspects of Intervention Solving Protocol

The detailed features of the Induction program were as follows.

Recognizing the elements of the teacher training system

In this step, the enrolled fourteen teachers of English methods, having different experiences as teacher trainees in English methods were recognized to form the forum. Their professional backgrounds correspond to be; six postgraduates and twelve undergraduates. Amongst the fourteen teacher trainees, two had experience of teaching. Other than that, four were fluent in English speaking and came from public schools. None had the experience of group work.

All these teacher trainees had a common purpose of acquiring English methods for the purpose of taking class at middle & senior levels. They remained involved in different communication activities for different purposes at different time intervals. In order to bring a transformation in their learning process these teacher trainees were asked to form three groups. Each group had 4 to 5 members. Next a discussion on self learning was taken up, followed by making them aware of dialogue as a method of communication¹. Subsequently, these groups were allowed to choose any three topics from their own syllabus. One group chose 'Characteristics of Prose & its dissemination strategy', second; 'Nature, Value & Techniques of Reading Skill', and the third group opted for 'Characteristics & Techniques of teaching Grammar Translation Method'. The activities under consideration, which determined the conceptual space, were collaborative work, engaging themselves in

meaningful dialogue, action learning, taking up responsibilities, presentation techniques and application of support materials in education. Available resources include the infrastructure of the faculty & their residence, and their personal experiences.

Working conditions

The working conditions involved;

- Finding out the critical factors defining the creation, and development of classroom environment.
- Presentation of the chosen units of English methods.
- Establishing the operational criteria required for dialogue.

The restrictions observed were trainees' beliefs of themselves and counterpart's capabilities in carrying out the work, appropriate use of infrastructure, experience in using support materials for presentation purposes, degree of identification with their actual teaching, quality concerning collaborative work, criteria for decision-making. The instrument of connectivity between the members of each group and amongst groups and dialogue forum² served to foster communications, learning, and collaborative works. Dialogue approach was opted to increase inter, intra participations and participations during presentations, readily provide suggestions to team mates, and collaboratively produce paper, manual and reports. Dialogue (David Bohm 1991) as an unfolding process of creative participation between peers, was taken up as often to express their thoughts on selected units to a limited time of the class and sometimes more. Many times dialogue was taken up sooner than one week interval.

Solution to Interventions

The interacting elements encompassing the transformation activities of Teacher Preparedness for the intended solutions of interventions were, Educational Process, Development and Communication and their corresponding domains of action.

The Educational process involved learning and

¹ Dialogue Workshop for Creating Learning Institutions for Progress, Indore, India. Jan 2005.

² Panel session through Dialogue, AIAER International Conference, Tirunelveli, India. Jan 2005.

presentation of English units. Learning was improved on acquisition of knowledge, development of skills, improvement of attitude, diagnosing setbacks and participating in project. On the other hand a meticulous planning, building knowledge, maintenance of knowledge and self-evaluation helped in enhancing presentation.

The Developmental interventions were resolved on action and reflection. Action incorporated supporting arguments on different aspects, providing evidences, accomplishing goals and lastly redefining task. Reflection saw to involvement in decision making, supervision of task, control of action, and judging an action.

The intervention of communication was solved through participation, services and production. Participation enhanced inter & intra group interaction. Continuous involvement gave way to better unit presentation. Connectivity through participation in dialogue, listening and changing mental models for better participation, service & production; and Development incorporated reflecting and acting. For unit transaction significance of teamwork and acceptance of responsibility was reasoned out, development of different skills of expression was encouraged, flexibility for group work was allocated, finding solution to predicament by themselves was invoked and changing of chairs was taken care of.

Monitoring & Management Mechanism

Monitoring mechanism was taken care by transiting the use of traditional technology like chalk and board in the style of conventional classroom settings, to learning and presentation through dialogue method. Familiarity with dialogue method in classroom settings resulted in making teaching and learning to be more effective. Dialogue guided by participation, listening and understanding of themselves and others (Passi 2005) enabled the creation and improvement of classroom environment serving as empowerment tools for all teacher trainees. Importance of individual reflection and further thinking between dialogues was told. Furthermore, formative checks throughout the study were carried out by continuously inquiring about the progress, listening to or reading

teacher trainees' productive expressions, monitoring their involvement on providing a purpose, accompanying during teaching practice session, commending participants effort and every success and exhibiting learners participation in class progression.

Managing the activities was taken up by comparing the performance of the members of the respective group with respect to four pragmatic pedagogical principles governing English education. The *Pragmatic Pedagogical principle* components of English knowledge integration were:

Making Language accessible

Encouraging teacher trainees to build on their ideas as they develop more interest and appreciation of linguistic views. Encourage teacher trainees to personally investigate relevant linguistic and grammatical problems and reconsider their language ideas regularly.

Making thinking visible

Having English activities so that students participate in the process of content relevancy, fluency, flexibility and accuracy. Considering logistic process for alternative explanations, and diagnosing mistakes.

Learning Collaboratively

Provide multiple, visual representations from varied media. Encourage students to listen and learn from each other. Design social activities³ to promote productive and respectful interactions.

Promoting lifelong language learning

Employ multiple social activity structures. Engage students in reflecting on their own ideas, language and on their own progress in understanding English. Engage students as critics of diverse English context & experiences. Establish a generalizable inquiry process suitable for diverse English projects.

Reviewing

The last step of ISP, reviewing was taken up to examine the understanding of the core elements of English learning and the practical implementation of the solution. This

³Singh, Vinita (2004). 'Creating a Shared Vision for Vertical Integration of Learning within Multifaceted Community'

meant going back to the statement of the problem through successive reconsiderations of the complete solution process and implied working on alternative process for learning community. Each transformation activity was carried out considering individual subsystem with meaning and purpose. These students sought themselves to make arrangement for presentation, opt for modification even while presentation and readily taking approval from other group members. The systemic interrelationship between Functioning of the Groups and Teacher Preparedness saw non linear effects and reinforcing loops as shown in Fig.1.

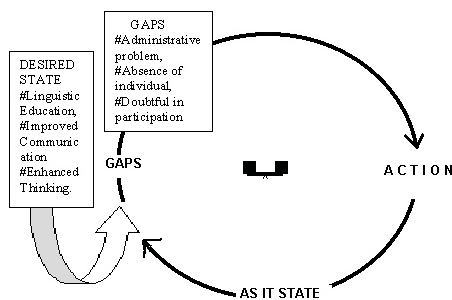


Fig1 . BALANCING STRUCTURE

Adapted from Gene Belinger's System Thinking Diagram

Figure 1. Balancing Structure

In this representation the group in 'as it state' had individual differences, introvert students hesitant to participate and extroverts are not ready to provide an ear, trainees' reluctance in adopting a new approach i.e. dialogue strategy of introducing knowledge, recognizing effects of systems aspects for their own purpose, managing time during college hours, vacation interruptions, use of minimum resource & time. Nevertheless, provision of common purpose and group competition acted as a reinforcing loop to set out a balance. Thereby, on recognizing others capabilities brought a solution to division of work and sharing responsibility. Constant interaction and involvement with others made one another to appreciate human dynamism for different purposes. Team thinking let the group overcome the different setbacks. This group autonomy & influence of dialogue reduced the gap of administrative problem, absence of individual, doubtful

in participation and made trainees seek a balance between initial differences. Thus the action partaken by the trainees slowly moved the earlier state of indecisiveness and indifference to a balanced structure (Gene Bellinger 2004) of desired state of Linguistic education, Improved Communication and Enhanced Thinking.

Data Collection

To see the systems influence on dynamism of human behavior an evaluation of the level of performance of teacher trainees enrolled in English methods were made by applying the mechanism of monitoring and self evaluation in context to transformation activities corresponding to their respective domains and the performance of group members with respect to the four pragmatic pedagogical principles governing English education.

Findings

The findings of the study were as follows.

- The performance of the members of the respective group with respect to four pragmatic pedagogical principles governing English education in unit presentation brought out cheers from other group members, learning to celebrate their success with others and openly recognizing their counterparts' inhibition and their capabilities.
- System influence on teamwork gave way to free expression. The rationale for learning could be the common drive that united the members for teamwork and thinking collaboratively. Thoughts approached largely as collective phenomenon, and (Peter Senge 1990) the trainees could deal with complexity, and focus on deep-seated structural issues. Support from members shunned inhibition and encouraged sharing responsibilities. Synchronized work brought before a better presentation.
- Within five months, system influence on learning initiated amongst the respective groups members transformed their activities concerning educational process, communication and development

domains with respect to language accessibility, visible thinking, collaborative learning and life long learning. By taking into account these three elements and by comparing the progress made during these months, places were detected where adjustments and changes were imperative for the trainer and of consequence for the trainees. This learning influenced the trainees to an extent that they even moved outside the campus in groups and shunned hesitation in having diagonal interaction.

Conclusion

As a result of successive applications of the Intervention Solving Protocol [ISP] the outcomes and performance of the specific learning community of trainees in Teacher Preparedness involved in solving the problem was much better understood as how a learning community of students enrolled in teacher training can be improved. The use of the protocol was also helpful in building a functional reservoir for the management of the corresponding organizational knowledge of the human learning system and the Learning Community of trainers.

When the members of each group were involved in any of the transformation activities corresponding to the conceptual model of the proposed solution, they made progress in order to work collaboratively. ISP protocol became a practical implementation of effective learning where learning was due to engagement and reflection so as to make things happen or to produce changes. It brought out willingness and commitment of members of the group. Dialogue approach proved to be crucial to make the implementation of teacher trainees' plans and decisions more efficient and it presents a promising scenario for ISP applications.

Thus, in pursuing the goal of Teacher Preparedness, the ISP protocol became a useful tool serving to find strengths and limitations of the Teacher trainee Learning Community in itself, in the sense that the trainers and the trainees needed to work more in this direction.

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Dr. Vinita has eighteen years of experience in teaching. Having worked with educationist at national and international level, her experiences include: Research & Development in Education Technology, Creative Thinking and English Method across Curriculum. Striving to work collaboratively within institute as well as across institutions, her initiatives remain in widening participation through work based education and academic settings. Her recent accomplishments, includes involving teacher trainees in managing an incentive program for community, which in turn, significantly improved the functioning of human learning system and instilled a deep sense of civic and ethnic responsibility. She has also entailed in deliberations of E MAP Network of UNESCO to support national strategies, especially for achieving education for all and has contributed to the areas of work based education and research in learning, methods of teaching and pedagogy.

