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GROUP DYNAMICS IN COLLABORATIVE LEARNING: CONTEXTUAL ISSUES AND CONSIDERATIONS

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ABSTRACT

Learning contexts are transforming significantly and under the umbrella of constructivist strategies 'collaborative learning' is an increasingly practiced approach to learning. The collaborative learning, a group based approach to learning builds up on the premise that knowledge is a social construct hence, knowledge construction a social endeavor through group-based learning. The research studies on the mechanisms of collaborative learning bring out various cognitive, social and emotional dimensions of group interactions. Further, the 'Group Dynamics' plays a crucial role in effective implementation of this pedagogical practice and teachers often have to struggle with the issues relating to composition and working aspects of the groups. The teachers, in the situations of organizing for collaborative learning therefore, need to monitor and assess the group interactions. There could be various indicators of behavioral parameters at individual as well as group level to analyze the nature of the prevailing group dynamics in a collaborative learning situation. This article culls out some behavioral dimensions to comprehensively assess the group dynamics during the process of collaborative learning. This attempt takes into consideration the shifting thrust on the 'process' of collaborative learning.

KEYWORDS: Behavioral Dimensions, Collaborative Learning, Group Dynamics

INTRODUCTION

In our real life, the incidental or informal learning contexts many a times are group (family, friends etc.) or community settings. Perhaps, 'Collaborative Learning' is an attempt to emulate these effects in a consciously created situation to engender certain learning outcomes. In the changing student-centered contexts towards active learning the collaborative learning; an approachthat builds up on the premise that knowledge is a social construct hence, knowledge construction a social endeavorthrough group-based learning. Collaborative learning is grounded into Vygotsky's views on social nature of learning and his theory of Zone of Proximal Development (ZPD); as here the group members provide the scaffolding. Undoubtedly, the 'Group Dynamics' in terms of process and outcomes becomes a significant factor to monitor and assess the effectiveness of collaborative learning.

BACKGROUND AND RESEARCH

Understanding group dynamics during the collaborative process of learning is a challenging area. Many cognitive, affective and social factors may interplay and influence group dynamics which in turn may influence the learning at individual level. These factors include – group size, basis of group formation, i.e. homogenous or heterogeneous group in terms of ability, age, gender, experiential background etc. The group composition and cohesion, task structure, student and teacher roles, nature of facilitation, discourse styles, rewards and incentives, training in collaboration skills, group processing and learning environment (Levine & Moreland, 1998; Webb & Palincsar, 1996). In fact, these very factors many a times create issues in effective implementation of collaborative learning (Gillies & Boyle, 2009).

Some *mechanisms* of collaborative learning have been elaborated by Dillenbourg P. Baker M., Blaye A., & O'Malley C.(2005) which account for knowledge acquisition through collaboration and may also provide insights for addressing the contextual issues. These mechanisms relate to psychological theories; mainly the socio-constructive and socio-cultural onesor they bear relevance to the recent work done in cognitive psychology and cognitive science.

During the situations of conflicting ideas among group members thesocial skills (acquired through prior orientations provided by the teacher) help learners to ignore conflict and influence them to find out a solution. The situations of disagreement could also stimulate alternative proposals from group members.

When a member is more knowledgeable than the other, we speculatethat the latter learns from the former. What is more surprising is that the more able peer does also benefit from collaborative learning. It is now well documented that providing an explanation improves the knowledge of the explainer himself, even more sometimes than the explainee's knowledge. Explanation is viewed as an interactive process in which the partners try to understand each other.

Under the collaborative situations, the members often have to justify their action to each other. The verbalization of this knowledge seems to have a positive effect on partners. The mechanism of learning by participating into conversations has been called 'internalization' by Vygotsky. Interestingly, in the group learning contexts thinking is viewed as a discussion that one has 'with oneself' and which develops on the basis of discussions one had with others. However, internalization only occurs if some conditions are met. One condition is that subjects can only assimilate concepts which are within their 'zone of proximaldevelopment', i.e. within the neighborhood of the current cognitive level. Another condition is that the less able peer is not left as a passive listener, but participates into the joint problem solving strategy.

When subjects collaborate, they often share the cognitive burden implied by the task. Spontaneously the group distributes the cognitive sub-tasks over individuals. During collaborative problem solving, one often has to justify why we did something. These justifications make explicit the strategic knowledge that would otherwise remain implicit. Through these discussions, the members regulate mutually their activities.

These mechanisms illustrate a new theoretical perspective inherited from the situated cognition approach, and referred to as 'socially shared cognition'. This theory views a group as asingle cognitive system distributed over individuals. It does not focus on individualcontributions, but on the shared representation built by the group. Within this perspective, the main reason why collaborative learning is efficient is that members learn to thinkinteractively: thinking is not only manipulating mental objects, but also interactions withothers and with the environment. (source, Pierre Dilenbourg and Daniel Schneider, Collaborative learning and the Internet)

According to Johnson and Johnson (1987) the situation of peer collaboration enlarges one's worldview and that one needs to learn to view others perspectives, "one of the most critical competencies for cognitive and social development," through interacting with other peers. Davidson and Worsharn (1992) agree claiming student's perspectives are broadened by other's viewpoints. Student see how others think, feel, their talents and dreams (p.261). Webb contends that the perception of the group members about the task being performed as well as prior education, and variance in group work prior contribute to variation of success of group work (Fall, Troper, & Webb 1995).

Besides the cognitive dimensions the affective dimensions are also integral to the context of collaborative learning. Regarding self-efficacy/ self-esteem, greater achievement is typically found in collaborative situations where the peers work together than in situations where individual work alone.

When a child is unmotivated or does not study well, a group based interaction with peers has good effects on productivity (Johnson & Johnson). Kagan et al. (1985) add that group interaction based learning creates positive effects on self-esteem because student feels more liked by classmates and feels more successful academically (p.12).

Many researchers believe that small group work increases higher-order thinking skills and a higher ability to reason. Berk and Winsler (1995) claim that peer interaction stimulates cognitive development when children merge perspectives and truly cooperate in problem solving while working towards a common goal (Berk & Winsler, p.132). Johnson and Johnson agree that more elaborative thinking, more frequent giving and receiving of explanation, and greater perspective taking in discussing material seem to occur in heterogeneous groups, all of which increases the depth of understanding, the quality of reasoning and accuracy of long-term retention (p.'19)

Berk and Winsler also agree that "children's problem solving seems to improve most when their partner is an "expert" a person especially at the task who can provide new ways of approaching the situation not already within the child's repertoire" (p.20).

However, there are concerns that the high-achiever will not be challenged, will be slowed down, or do all the work. Research, according to Johnson and Johnson, shows no loss, but often higher-achiever performs better in groups than alone, especially when looking at retention and strategy instead ofjust correct answers (p.169). Peer collaboration can help high-achiever have a more positive attitude about learning, become more motivated, and feel better about themselves. They are also seen as resources to their peers instead of competitors. This allows high-achiever to perfect collaborative skills (Johnson & Johnson, p.170). Kagan et al. add that high-achievers are usually better off working with low and medium ability student rather than other high achievers, but at times when no academic improvement is made, high-achievers retains level (p.118).

Lower achiever can be benefited from peer collaboration by increasing achievement. "There can be little doubt that the low and medium-ability student especially, benefit from working collaboratively with peers from the full range of ability differences" (Kagan et al., p.118). Generally, low achievers work better if they are taught collaborative skills before group work begins and if their responsibility is assigned. Collaborative learning becomes less intimidating (Johnson and Johnson, p.171).

Considering the social aspect, many researches contend that peer collaboration can improve student relations among different races, improve achievement, and overall personal relationships. Luther, (2000) interjects that students who use collaborative learning improve on learning working with others, developing respect and friendship among majority and minority students, and helping depressed and apartheid students (p.61). Johnson and Johnson add, cooperative learning helps students to develop attitudes, value skills and things not learned from adults. Students do this through imitation of one another's behavior and admired competencies, shaping social behaviors, attitudes and perspectives (p.25).

SOME CONSIDERATIONS TO MONITOR AND ASSESS GROUP DYNAMICS

These dimensions have been culled out through the analysis of the related research studies and are suggestive and

do not claim to be exhaustive. The focus here is to comprehensively explore the *individual* as well as *group* level parameters of the group dynamics in collaborative learning situations.

Individual Level

- **"Behavioral Dimensions to Observe Collaborative Skills"**

The observer needs to focus on the behavioral pattern of each member of the group in terms of degree of involvement in the task, the willingness of the member to provide information to the group, sensitivity to the feelings of other members and encouraging others to share their opinion.

- **"Behavioral Dimensions to Observe Thinking Skills"**

The thinking skills would be reflected in the behavior in situations where the member avoids impulsive judgments and preferably relates to evidences / logics to construct meaning; the level of questions raised, providing alternative view points, drawing conclusions etc.

It is to be considered that all the behavioral parameters at the individual level, are to be observed in terms of:

- Whether they are present or missing.
- Whether they are occasional or consistent.
- If occasional then are those behavioral self-generated or prompted / initiated by other group member.

Group Level

- **"During Discussion"**

The group behavior can be observed for identifying the thrust areas / problem(s) appropriately, whether the group members conduct the discussion in a self as well as mutual regulated manner providing opportunities to each other, decision making is participatory, the cognitive load is shared or mutually distributed adequately.

- **"During Presentation"**

The content presented by the group is to be looked for its extent of processing by the group and whether it shows multiplicity of ideas and idea- processing / handling.

The group reaction to the presentations of other groups is also significant, ie. 'inter-group' dynamics. For instance, does a particular group give a 'meaningful feedback' and maintain a healthy competitive supportive disposition during the presentation by the other groups.

While observing the group behavioral parameters it needs to be observed further, whether occasional or consistent behavioralparameters are shown by a few members / majority / all members respectively.

The suggested behavioral indicators can provide insights into the collaborative work done by the group. These indicators can be used to diagnose group weakness in their collaborative learning process and highlight the specific areas for further strengthening the group dynamics.

The feedback from the group members through self-assessment and peer-assessment at various stages of group

interactions could provide understandings about the cognitive contexts, emotional climates, social skills as perceived by the group members. This could be very significant in enhancing the nature of intra and inter-group interactions at the cognitive as well as attitudinal level.

CONCLUSIONS

Understanding of inter-group and intra-group interactions, if monitored in a planned manner can lead to significant insights regarding peer attitudes, goal orientedness etc. However, it should not be assumed that the groups would have only positive interactions, the situations of conflict, or unequal participation need to be probed. Problems with groups are abound (Rodgers, 1988) and need researchers' attention. The research on group dynamics would have implications for creating better learning environments and learning communities.

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