



TEACHING AND LEARNING IN GEOGRAPHY: A NEW PERSPECTIVE

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Introduction:

Constructivist views of learning in Geography suggest that learners can only make sense of new situations in terms of their existing understanding. Prior knowledge is used by learners to interpret observations; meaning is constructed by individuals in a process of adding to or modifying their existing ideas.

The implications of such a view are that teachers need to find out the learners' ideas in order to take these into account in their teaching. Teachers then need to provide experiences which challenge the learners' current understanding in order to help them restructure their ideas.

Constructivist perspectives have had a significant impact on recent research in Geography Education in the India and elsewhere. Much recent research has been concerned with finding out the ideas which learners typically hold in order to inform teaching. Many Geography teacher educators are persuaded of the value of a constructivist viewpoint and actively promote a constructivist philosophy. As a consequence it is now common place to find that teachers have been exposed to constructivist ideas, have a commitment to constructivist principles and have made some attempt to modify their practice to take these principles into account.

Bentley and Watts (1991) claim that there is a distinction between what they characterize as the "strong" theoretical version of what is involved in constructivism and the "weak" version of constructivism in practice which many teachers implement in their classrooms. It may be that teachers have misunderstood what the researchers are saying and that any modification to their practice is based on a misinterpretation of constructivist principles.

Our belief is that the model of constructivism generally put forward is one which is based largely on methods which work for researchers rather than methods which work for teachers in typical classrooms. The discrepancy between the version put forward by researchers and the version applied in the classroom may therefore be indicative of a realistic response by teachers, who may be committed to a constructivist approach in principle but have to find ways of making this manageable in practice. We believe that a number of significant issues about how to make constructivism applicable to classrooms have not yet been addressed by the various research groups.

Issues relating to constructivist approaches to teaching and learning :

One issue is that of the separation of the phases of the constructivist teaching and learning sequence. Although it is recognized that the elicitation phase may provoke learners to reconsider their thinking, the phases are generally described as separate and distinct. Teachers commonly perceive these phases as separate, and we suggest that teachers may have difficulty in switching from one phase to the other. [Curriculum materials produced in 2014-2015](#) describe how teachers will find it easier to plan activities after the learner's ideas have been identified. However as a model for teaching this separation is not helpful. The practicalities of timing and planning for teaching make this model, which works well as part of a research programme, very difficult to implement. The separation of the two phases also means that the purpose of the elicitation phase is only evident to the teacher and not to the learner.

Precisely how the learner's ideas can be taken into account in planning suitable restructuring activities is also a cause for concern. In principle the suggestion that teachers should plan activities on the basis of what the learner already knows and understands seems like an obvious way to proceed. The problem comes with the sheer practicality of attempting to do that with a class of [20 or even 25 or more pupils](#). Even if the teacher has adequate information about the learners' initial ideas, attempting to respond to their individual ideas can become an impossible exercise in classroom management. We know many teachers and student teachers who have made a commitment to a constructivist approach but feel guilty because they are unable to manage to implement this in their practice.

Guidance is readily available on the ideas which learners hold and on the range of methods which researchers have used to elicit the learners' ideas. However the guidance available to teachers on how to promote restructuring of the learners' ideas is much more limited. The balance in more recent research remains weighted towards elicitation rather than restructuring. Research into the ideas that learners hold is relatively "safe" research, in that it

is located within a well-documented paradigm, it is easy to manage, and it is very difficult to challenge since it makes no attempt to predict or to prescribe what practice will be effective. By contrast research into how to restructure the learners' ideas has few advantages, even though it may be more valuable for teachers. Underpinning these concerns is the issue of the relevance of the research to teachers. There seems to be little doubt that researchers frequently are concerned about the classroom relevance of their research. For example, it is clear that the aim of the student's Learning in Geography Project is to "devise, implement and evaluate teaching materials and strategies which attempt to promote conceptual change", and the materials are a direct outcome of the SPACE Research Project. In short, the teachers have had a central role in researching, developing and trialing teaching materials.

Thus the involvement of teachers in research projects is no guarantee that the outcomes of the research will be viewed as relevant by teachers outside the research groups. There is no doubt that research into the alternative conceptions held by learners is valuable, but it is unfortunate that much of the research does not take the next step of putting forward specific strategies for developing their ideas. This may help to explain why many teachers have made only limited use of the research data. From an action research perspective it appears that the priority for much of the research has been to improve understanding of the situation in which practice occurs rather than to improve practice directly.

Concept geographical model as an approach to teaching and learning in Geography :

It was in response to issues such as these that we developed geographical model drawings as a means of presenting alternative conceptions in Geography. On the first occasion that they were used we were looking for alternative approaches to engage a group of students in thinking about Geography concepts. We hoped that by presenting alternative ideas in a visually accessible and appealing format we would be able to elicit the students' ideas and provide suitable challenges which might lead to their ideas being developed further.

A positive response from the students concerned led to the decision to research the use of these concept geographical models systematically. The concept geographical models appeared to provide an innovative and effective approach to teaching and learning in Geography, with considerable potential value for teachers. They also appeared to address some of the issues mentioned above, raising the possibility of offering an approach to teaching and learning in Geography which took account of the central principles of constructivist perspectives and which was firmly based on typical classroom practice.

Other sources of inspiration were our own teaching experience, suggestions from colleagues and everyday life experience. There are some limited references to geographical

models and annotated drawings in the Geography education literature. However the approaches described in the literature do not attempt to explore the use of geographical model-style drawings as a teaching and learning approach in Geography in a systematic way.

In contrast to much educational research, which is sometimes criticized on the grounds that it is frequently of little practical benefit to teachers, we believed that the concept geographical models could have a direct and immediate impact in the classroom. They also seemed to promote a purposeful approach to practical work - a "hands-on, minds-on" approach - rather than the more mechanical approach to practical work which is sometimes adopted.

Research Objectives :

1. To study awareness of student-teachers towards 'Geographical model'.
2. To encourage the participation of student-teachers.

Hypothesis :

1. There is no significant difference in awareness of students-teachers regarding 'Geography education' in pre-test scores and post-test scores.
2. There is no significant difference in new perspectives of student-teachers regarding 'Geography Education' in pre-test scores and post-test scores.

Sample:

20 students out of 80 students of B. Ed. class were selected as the sample for research (Student were selected whose method is Geography).

Research methodology:

Survey Method

An evaluation of the use of concept geographical models was carried out by teachers and researchers working in a variety of educational settings. These included student-teachers covering the 20-30 age range, college lecturers, teachers working with children with special educational needs and in-service providers. These teacher-researchers were invited to use the geographical models and to evaluate them critically.

Tools:

1. S.N.D.T. Women's University's B. Ed. Syllabus (2014-2015).
2. Questionnaire for student-teachers (i.e. Pre-test and Post-test).

Scope and limitations :

Scope :

1. It could be implemented for student-teachers.
2. It could be implemented for College lecturers.

3. It could be implemented for teachers working with children with special educational needs and in-service providers.

Limitations:

1. The programme will focus only on improving 'Geographical models'.
2. It does not include any activities to improve other skills.
3. These programme will be for B. Ed. students.
4. The limitations of this program is that it is used only for S.N.D.T. College of Education, Pune which include in this research.

Data Collection and analysis:

Data was collected by a combination of participant and non-participant observation, questionnaires completed by the researchers, oral and written feedback from the learners involved, interviews with some of the researchers and interviews with some of the learners. The groups observed have included students, parents and teachers. In many cases authentication of the data was possible using a combination of investigator and methodological triangulation.

Action research with our own teaching groups allowed us to discuss alternative formats for the concept geographical models with students and teachers as well as providing further evaluation data. This led to a number of developments in the format of the concept geographical models. These include a shift from negatively-worded to positively-worded statements, a shift from statements to questions and a shift from single alternatives to multiple alternatives.

The concept geographical models have also been presented to a variety of audiences at local, regional, national and international Conferences. This has been helpful in gauging the views of a larger cross-section of the teaching population, since our main sample of about 20 out of 80 student-teacher-researchers consisted of volunteers who were interested in using the concept geographical models.

Evaluating the use of the concept geographical models :

Elicitation:

The concept geographical models were intended to stimulate discussion and to make the learners' ideas explicit through this discussion. The data consistently indicated that the concept geographical models were very effective in this elicitation process. Many teachers commented on how the concept geographical models readily gave them access to the learners' ideas and revealed the learners' conceptual development - "the ideas are so explicit they do not require further probing" was one teacher's comment. A teacher working with children

with behavioural difficulties noted that "the children were less inhibited than when asked questions verbally" and other teachers commented on how the concept geographical models were particularly useful for encouraging discussion amongst pupils who are reluctant to reveal their own thinking.

Restructuring:

Many of the teachers involved observed examples of restructuring in a range of teaching situations. Teachers commented on how the concept geographical models promoted cognitive development in the learners. Learners mentioned sometimes changing their minds when they discussed the concept geographical models - how they "had thought one thing but now believed something else". The concept geographical models appeared to provide a stimulus which frequently led to the learner's ideas being modified and developed.

Motivation and involvement:

Without exception teachers using the concept geographical models commented on the high levels of involvement of the learners. This was evident across the whole range of teaching situations observed. It was particularly notable that the concept geographical models encouraged involvement amongst pupils who are normally reluctant to get involved in discussion, enabling pupils who do not normally converse much about Geography to articulate their ideas more readily.

The level of motivation in each situation evaluated was described as high. Teachers remarked on the speed and ease with which discussions started. The success of the concept geographical models in enthusing pupils with low levels of motivation was noted by both pupils and teachers - "There are lots of naughty students in our class but we are busy and better behaved . . . , the naughtiest girl in our class, wanted to stay in at the end of the lesson to carry on with the geographical models" was the comment from some 2 students in an inner city school. The visual impact of the concept geographical models was emphasized by one student comment that "it beats written work any day!"

Transferability:

The initial judgements about the value of this approach in our own teaching have been replicated with a variety of groups in many different teaching situations. These include primary and secondary schools, pupils with special educational needs, pupils learning Marathi as a first language and English as a second language, undergraduate and postgraduate students, primary and secondary school teachers and parents. Although the clarity of some of the concept geographical models has had to be improved, teachers generally found them

remarkably easy to use and effective in their outcomes. "You just photocopy and go!" was how one teacher described the process.

Other outcomes:

Other outcomes have emerged from the research to extend the potential value for the concept geographical models. Differentiation was one significant issue. Although an attempt had been made to produce material which was accessible at a range of levels, we had not anticipated enabling such a wide degree of access as was shown with many of the geographical models. In some instances the same concept geographical model generated considerable interest in groups ranging from young children to adults holding degrees in Geography! One teacher also noted how it was possible to illustrate progression of ideas within her class through the pupils' responses to the concept geographical models.

Findings:

1. It will be a slow process as it requires revolutionary changes in the mindset of teachers.
2. We should have a realistic time frame to bring such changes and phase-wise plan so that we are able to address the current needs as well as preparation for the future.
3. It does not require huge expenditure but it definitely requires courage and conviction.

Conclusions and Recommendations:

1. Most agencies focus on schooling - not enough attention paid to alternative forms of education.
2. Teacher education rarely keeps up with changes in policy and practice.
3. Many of the teachers are not involved in restructuring in a range of teaching situations.
4. Teachers should give more time for models and make new innovations in models.
5. Teachers should focus for students as an interesting subject as a Geography subject.

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