Investigation of Science Teaching at Secondary Schools of Bangladesh

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Introduction (Objectives)
The most critical concern in Bangladeshi secondary science education is low enrollment, low interest in science and low student achievement. Poor quality of teaching is one of the most crucial states for these concerns (OECD, 2009). A recent review carried out by Directorate of Secondary and Higher Education (DSHE) pointed out that students of science group decrease by 31.6 percent compare the students of business studies and humanities group from the year 2001-2008. Correspondingly, a study conducted by Billah (2009) showed that in the last two decades science learners in Secondary Schools Certificate (S.S.C.) and in Higher Secondary School Certificate (H.S.C.) declined 18.5 and 8.7 percent respectively. He also stated that where science is taught the standard is poor. Due to this concern, we feel interested in exploring the science teaching at secondary level which comprises of grade VI-X.

Main research question: What sort of practices do science teachers do in teaching science?
i) What type of questions do teachers use in involving learners in the teaching and learning process? ii) What types of students' responses are triggered after teachers' initiating questions? iii) How do teachers react to students’ various responses?

Methodology
Data was gathered through lesson observation via video taping and observation protocol by the researcher. Fourteen science lessons from three different schools at Dhaka were purposively selected. The average class size was 42 students per class and average duration of the class was 30-35 minutes. Video files were transcribed verbatim and analyzed with coded categories.

Result
About questions: Altogether 617 teachers’ questions were indentified under different categories. Among them, the highest type of questions were the questions which check student’s content knowledge (50.7%), management strategy question (24%), rhetorical (17.3%), conceptual question (7.3%), and higher order question was found the lowest (2.8%).

About responses: There were 495 responses were made by the students under seven response categories. Among them, the most prevalent category was ‘word or phrase’ type response (49.9%). The second highest category was ‘no response’ type (29.7%). The category “long response express information or knowledge” and long response express thinking’ were found (13.1%), and (1.8%) respectively.

About feedback: Altogether 495 feedbacks were made by teachers to students’ correct, incorrect or no responses. Among the feedback ‘restate student response and direct instruction’ and ‘neutral comment—asking question’ categories were found dominant at 35.8% and 23.8% respectively to students’ correct/partial correct responses. Whereas, the feedback categories ‘explicit correction-direct instruction’ and ‘no comment-direct instruction’ to students’ incorrect or no responses were found 18.9% and 12.8% respectively.

Discussion
The questions teacher asked were mainly lower order basically for checking students ‘content knowledge and triggered very short responses limited with detached words or phrases or no responses. Teacher made corrective feedback with direct instructions to students’ incorrect or no response.

Summary
On the basis of research findings, it can be concluded that didactic teaching method i.e., classroom lecturing, rote learning through note-taking, the absence of social interaction or effective feedback, one-way communication dominated by the teacher, is still prevalent in the researched secondary school science lessons.

References