The Effects of Classroom Discourse in Two Teaching Methods (Direct Teaching and Fostering Communities of Learners) on Students' Achievements, Perception of the Learning Environment, Personal Achievement Goals, and Sense of School Belonging of Junior High School Students

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Abstract

This research focuses on the classroom discourse of two methods of instruction: direct teaching and teaching in a learning community (i.e. Guided Discovery in Communities of Learners, GDCL). The main hypothesis of this study is that classroom discourse applied within each instructional method creates a different learning environment. In accordance, this research attempts to define the discourse characteristics of each learning environment while exploring their differential effects on students' achievement, perception of the learning environment, personal achievement goals, and sense of school belonging.

Traditional direct teaching is the most common method of instruction applied in classrooms today. According to this method, the teacher is the prime source of information, and as such plays an active role. The teacher transfers the information to the student, who is perceived as a passive recipient. The teacher dominates classroom discourse by determining topics of discussion, the amount of time devoted to each topic, and the questions to be asked. The role of the student is to retain and memorize the information, in order to retrieve it when tested. The main advantage of this method is that it enables the teacher to simplify complex subject matter, and convey large amounts of material to the students. On the other hand, the disadvantages are that it promotes competition, which is non-conducive to creating social relationships among classmates and it lacks student involvement in the learning process.

In collaborative learning, an alternative method to direct teaching, students are the prime source of information. They share and master knowledge while learning collaboratively under teacher guidance. GDCL (Guided Discovery in Communities of Learners) is a collaborative learning model, whose principles are embedded in language-centered sociocultural and sociohistorical theories. It asserts that higher mental processes are developed through social speech, discourse, being gradually internalized. The developmental learning process occurs through participation in collaborative activity with an adult or a more able peer. The socio-cognitive approach asserts that to meet a child's potential, an interactive learning environment needs to be created.

The GDCL model includes a system of interactive activities: conducting research, sharing of information, and performance of a summative task. Through

discourse each member shares his or her knowledge with other group members, thereby exposing them to different levels of cognition. Participation in the group allows its members to develop their understanding and cognition according to their pace and potential. The GDCL model summons reflective thinking and interaction, while promoting academic and social competence. Research has emphasized the efficacy of collaborative learning in improving reading comprehension and promoting students' achievement. However, learning collaboratively in a group (through discussions) tends to be time consuming, and if not applied efficiently, may become aimless and counterproductive.

Discourse is one of the most important means of sharing information and developing insight, and as such is the teacher's main pedagogical tool. Through discourse the teacher plays a key position in shaping students' role and their level of involvement in the lesson. Classroom discourse may be characterized as dialogical or monological. In dialogical discourse participants build on each other's input, and collaboratively contribute towards creating an information network based on thinking and exploration. Through utterances that precede dialogical discourse, i.e. open-ended questions and clarification questions, the teacher acknowledges students' opinions and encourages their involvement in the learning process. In contrast, discourse in the monological classroom is asymmetrical: the teacher's voice is dominant. He or she tends to ask closed-ended, recap questions, and students are required to pay close attention and to answer through rote learning.

Researchers acknowledge the importance of dialogical discourse in promoting efficient learning. However, direct monological teaching is applied more often than dialogical teaching despite its wide recognition. It appears that teachers lack the information required to implement dialogical discourse in their classroom. The main tenant of this study is that to enable teachers to implement dialogical instruction there is a need to characterize the discourse features of a collaborative learning environment. This study attempts to characterize the discourse within a learning community in order to examine its dialogical features and their contribution to student learning. In addition, this study examines the efficacy of GDCL.

This study includes 206 8^{th} grade students from a junior high school in central Israel. All students were randomly assigned to six different classes. All classes were

exposed to the teaching of the Old Testament that includes the comprehension of ancient Hebrew. Three classes served as the control group and were exposed to direct teaching. The other three classes served as the experimental group, and studied within communities of learners. Prior to the intervention the teachers received four training sessions. These sessions included a presentation of the importance and advantages of each methodology. The teachers chose the biblical covenant as the major topic of instruction, and decided on the sub-topics to be included in the unit that was taught in all classes.

In this study a mixed method that combines **quantitative** and **qualitative** methods of data collection and analysis was applied. To evaluate long term effects of the two learning environments all quantitative measures were administered prior and after the intervention, except for the Standard Progressive Matrices (Raven, 1947), which examines the participants' cognitive aptitude. **The quantitative** measures included two reading comprehension tests based upon biblical texts that were composed by the teachers who took part in the study. These tests were validated by experts on the teaching of biblical texts and included questions of various cognitive levels. The objective of the comprehension tests was to assess the change in the students' ability to comprehend a codex loaded with meaning from prior to after the intervention. Questionnaires were administered to assess student achievement goals and perception of their learning environment. Students' sense of school belonging was assessed using another questionnaire.

Findings show that on the biblical comprehension tests only students that participated in communities of learners improved their achievement scores significantly from prior to after the intervention. This is in contrast to findings on students who were exposed to direct teaching, who did not improve their score significantly from prior to after the intervention. These findings support the study's hypothesis suggesting that students exposed to a learning community will show higher gains on reading comprehension tests from prior to after intervention than students who were exposed to direct teaching. In addition, this finding suggests that students exposed to learning communities internalize thinking processes, i.e. inner speech, expressed through discourse within the community of learners, thereby facilitating the application of reading comprehension strategies.

Contrary to the research hypothesis, no significant difference was found between the groups on students' perception of their learning environment as assessed by their goal orientation. This finding indicates that students did not modify their goal orientation from prior to after the intervention. Hence, students with mastery goal orientation continued to show interest in their studies, and were eager to develop new skills and face challenges willingly. On the other hand, contrary to the research hypothesis, students with performance goal orientation who participated in a learning community remained competitive and preferred easy tasks in which they could demonstrate their knowledge in comparison to others. These findings support previous research that suggests students' perception of their learning environment conforms to long-standing learning norms in which students are evaluated in comparison to others. In addition, the hypothesis that the experimental group would show higher gains on a measure of school belonging from prior to after the intervention than the control group was not supported by the findings. This may be explained by the fact that the students formed groups according to their own will, thus not allowing for new friendships, which might have fostered the experimental students' sense of school belonging.

The **qualitative** assessment was based on 16 video-taped and transcribed lessons. To analyze the transcription, two methods were applied. The first counted number of utterances according to different categories. The second method did content analysis. The objective of counting utterances was to affirm the differential discourse characteristics of each instructional method. The teachers' utterances included six categories: classroom management (instructive, directive, procedural, and disciplinary), reference to learned topics, instruction of new material, question types (recaps, clarification, and higher order questions), IRE interactions – {(teacher's) Initiation, (student's) Response, (teacher's) Evaluation)}, and uptake. The students' utterances included three categories: answers in the I.R.E. interactions, types of questions (procedural, clarification, and authentic), and comments that did not warrant an answer or response.

An analysis of the teachers' utterances revealed significant differences between the experimental and control groups in the frequencies of the different discourse characteristics. In the experimental group the teacher used more utterances relating to classroom management and reference to learned topics than in the control group. In the control group, the teacher used more utterances relating to introduction of new material

and more questions than in the experimental group. Further investigation into the type of questions the teachers used in both methods showed that in the experimental group the teacher asked more high-order and clarification questions than the teacher in the control group. The teacher in the control group asked more recap questions than the teacher in the experimental group. Additional differences were found in the frequencies of IRE and uptake: the teacher in the experimental group used more uptake and less IRE interactions than the teacher in the control group.

An analysis of the students' discourse also revealed significant differences between the experimental and control groups in the frequencies of the different discourse characteristics. In the experimental group students asked more questions of all three types (procedural, clarification, and authentic) than in the control group. In the control group students gave more answers in IRE interactions and made more comments that warrant no response than in the experimental group. The differences in the students' discourse were in congruence with the differences found in the teachers' discourse in both groups.

The total number of teacher-students' turn-taking in each group further verifies the assumption that students exposed to GDCL will take a more dominant role in class discussion than in students exposed to direct teaching. In the experimental group students' number of turn-taking was almost double that of the teacher's. In the control group teacher's turn-taking was almost equal that of the students'. The total number of teacher-students utterances shows that in the experimental group students' utterances were double those of the teacher's. In the control group the teacher made significantly more utterances than the students. These findings are in congruence with the high frequency of high-order and clarification questions asked by the teacher in the experimental group: Frequent use of these questions was found to encourage students' involvement in the classroom discourse. Hence, this study suggests that the application of dialogical discourse includes frequent use of uptake and higher order questions.

Content analysis was performed using a typology which states that classroom discourse may be divided into three categories: disputational, cumulative, and exploratory**. Disputational** discourse is characterized by short utterances, and might sound fragmented and argumentative. Interaction among the participants bears a competitive nature, with information and ideas being flaunted rather than shared.

Cumulative discourse is characterized by exchange of knowledge and ideas. The participants share information and build on each other's input, but do not challenge or criticize each other. **Exploratory** discourse is characterized by constructive criticism of ideas and insights. It involves assessment and appeal for justification, and is found to maintain the greatest contribution towards learning. Findings of the content analysis indicate higher frequency of exploratory discourse sessions in the experimental group than in the control group. These findings identify the unique features of each teaching method, thus providing teachers with applicable tools to implement within their classrooms.

This study validates that dialogical discourse, such as created within a learning community (GDCL), provides students with a learning environment that promotes high literacy, as demonstrated on comprehension tests of a codex loaded with meaning. In addition, this study demonstrates that collaborative teaching and traditional direct teaching have distinct discourse characteristics which are different from each other. The study suggests that the significantly higher achievement scores of the experimental group may be attributed to the dialogical features of the classroom discourse unique to communities of learners. Indeed, the dialogical learning environment in the community of learners contributes to the development of critical thinking required to comprehend canonic texts like the Old Testament.

This study supports the assumption that GDCL will bring about meaningful learning, as dictated by the Ministry of Education (2014). The findings of this research show the advantages of a learning community environment, in which dialogical discourse is prevalent. In light of these findings, this research suggests broadening the scope of teaching in communities of learners to a larger number of teachers and subjects taught within schools.