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Cognitive activation in Swedish and Norwegian literature instruction

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Abstract (300 words)

Previously, cognitive activation has primarily been linked to students' learning outcomes in mathematic classrooms, but also in language arts, it is important that teachers provide activities that are intellectually challenging for their students. Since this is an issue we know little about, the aim of the present study is to investigate how language arts teachers make use of literary texts in their instruction, and to estimate the cognitive activation potential of activities and tasks that they present to their students. The study relies on video-data from 28 Swedish and 26 Norwegian classrooms where literature instruction takes place. The unit of comparison and analysis is on the task level, which means that all instances where literary texts are read and worked upon will be identified and coded. The coding manual is based on assumptions that have previously been used when coding intellectual challenge (see e.g. Grossman, 2019), but is inductively developed in order to focus on tasks and activities. It aims to capture how tasks are assigned as well as how they are actually realized in class. The analysis is presently in progress, but tentative findings suggest that teachers are more likely to increase the intellectual rigor of tasks and activities when the apparent cognitive activation potential is low. On the other hand, when the cognitive activity potential of a task is high, the teacher more commonly downgrade the intellectual rigor. Interestingly, there seem to be a number of differences between the two data sets, but whether these differences depend on national characteristics, or on other variables (for example teachers' length of teaching experience and extent of education), remains to be seen.

Extended summary

Introduction

There is a growing concern about young people's decreasing interest in reading literature (see eg. Statens medieråd, 2019; Nordlund & Svedjedal, 2020), and from PISA 2018 we know that a large number of Swedish and Norwegian 15-year-olds do not read in leisure hours (The Swedish National Agency for Education, 2019; Jensen et al., 2019). Most likely, a reduction in the amount of reading has negative impact on young people's reading abilities, and considering the fact that our modern society requires well developed literacy skills from all citizens, this is certainly an alarming situation. Regardless of students' future plans, their reading literacy is crucial for their economic and personal life, and for their active participation in the society (OECD, 2018).

When discussing "the reading crisis", the focus is mainly on reading comprehension on a general level. However, reading literature differs from reading factual texts, and literary literacy, i.e. the ability to understand literary texts, involves cognitive demands that partly differs from factual reading literacy (Frederking et al., 2012). When describing literary competence, Nordberg (2017) points out that it is indispensable that readers possess the ability to balance empathetic reading with an analytical and distanced viewpoint. Rosenblatt (2002) distinguishes between aesthetic and efferent reading, and points out that aesthetic reading demands the reader to turn his or her attention to affective aspects, and to react to feelings, sensations, imaginations and ideas that are created through experiences that the literary text awakes. In text-based discussions, such affective connections between readers and the text seem to promote high-level comprehension and critical-analytical responses (Soter et al., 2008).

Previously, cognitive activation has primarily been linked to students' learning outcomes in mathematic classrooms (see eg. Kunter & Voss, 2013; Lipowski et al., 2009). However, also in language arts, it is important that teachers provide activities that are intellectually challenging for their students. Therefore, the aim of this study is to investigate how language arts teachers make use of literary texts in their instruction, and to estimate the cognitive activation potential of activities and tasks that they present to their students. The study addresses the following research questions:

1. How cognitively activating are tasks and activities that students meet in Swedish and Norwegian lower secondary literature instruction?
2. How and to what extent do teachers increase, or decrease, the cognitive activation potential of these tasks and activities?

Theoretical background

When evaluating teaching quality, it is important to consider whether students, or teachers, are the ones doing the majority of the intellectual work (Grossman, 2019). Therefore, it is relevant to assess and measure the academic rigor of activities, assignments and teacher questions that students are engaged with in class. Some kinds of assignments require higher order thinking, especially those that are intellectually challenging. Lipowski et al. (2009) explain that cognitive activation is an instructional practice that encourages students to engage in high-level thinking, which can help them develop a more complex knowledge base. Koek et al. (2019) suggest that de-automatization (questioning, interpretation awareness and delay) and (re)construction (reasoning, concluding and considering alternatives) correlate to critical thinking and promote students' growth in literary interpretation skills. Winkler (2020) remarks that "cognitive activation lies under the surface of teaching" (p. 9). Thus, it cannot be directly observed. Rather, it is necessary to estimate it through tasks worked on in class, or on the quality of content-related classroom discourse. Although teachers may plan assignments that are intellectually challenging, these are not always realized in the intended way (Tengberg, 2019). Therefore, it is not only important to evaluate what kind of mental processes can be triggered by a particular task, but also to investigate how the task is implemented. Winkler (2020) distinguishes between "assigned task" and "task realized", whereas for example Weingartner (submitted) talks about objective respectively realized cognitive activation potential.

Methods

The present study will rely on video observations from 28 Swedish and 26 Norwegian language arts classrooms where literature instruction takes place. All occasions where literary texts are read and worked upon have already been identified, and in the next step, tasks and lengthy activities (primarily instances when literary texts are read) connected to literature instruction will be qualitatively coded on a 4-point scale. The coding manual is based on assumptions that have previously been used when coding intellectual challenge (see e.g. Grossman, 2019), but it is inductively developed in order to focus on tasks and activities. In order to ensure reliability, cognitive processes (principally based on Bloom's taxonomy of educational objectives as described in Anderson et al., 2001) will be reported. It will also be important to assess also how the cognitive activation potential of tasks is changed through implementation in class, and to investigate what teachers do when increasing, or decreasing, it.

Preliminary findings

The analysis is only at its beginning, but it reveals that the cognitive activation potential of tasks and activities varies a great deal. When students read or listen to literary texts, it is generally very low, but sometimes, when the aim is to give students joint reading experiences, teachers interact with their students and thus increase the cognitive activation potential. Tasks that require students to write about texts, or to discuss them in depth, demand higher degrees of cognitive activation, especially when students are, for example, asked to interpret, compare, analyse and evaluate what they have read. In such situations, it seems to be more common for teachers to decrease the cognitive activation

potential. For example, they present their own interpretations and solutions to students, or simplify the task itself.

In the final analysis, variables connected to teachers (e.g. teaching experience and extent of education) as well as to instruction (e.g. instructional format and length of activities) will be taken into account. Although there seem to be a number of interesting differences between the two data sets such variables, rather than national differences, will be prioritized in the analysis.

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