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LITERATURE EDUCATION AS A SCHOOL FOR THINKING

Students' learning experiences in secondary literature education

MARTIJN KOEK*, TANJA JANSSEN*, FRANK HAKEMULDER**, AND
GERT RIJLAARSDAM*

**Research Institute of Child Development and Education, University of Amsterdam, The Netherlands **Department of Languages, Literature and Communication, Utrecht University, The Netherlands*

Abstract

Critical thinking and cognitive well-being are commonly associated to tendencies that do not come naturally to humans: inhibition of automatized cognitive processing (de-automatization) and thoughtful (re)construction of meaning. A previous study showed that students' growth in literary interpretation skills can be partly explained by skills and dispositions related to de-automatization and (re)construction. The present study aims to identify students' learning experiences of de-automatization and (re)construction during lessons in literary fiction. We selected 21 students (grade 10-12, mean age 17,2) of whom 15 students had shown growth in literary understanding (Growth group) and 6 had not (No-growth group). We conducted stimulated recall interviews focused on learning experiences during four months of a specific literature course, using students' literature portfolio as stimulus. All interviews were fully transcribed. First, segments containing learning experiences with de-automatization and/or (re)construction were selected. To chart the nature of de-automatization and (re)construction experiences each segment was then coded bottom-up, iteratively and axially. Findings indicate three types of de-automatization (questioning, interpretation awareness and delay), and three types of (re)construction (reasoning, considering alternatives and concluding), with participants in the No-growth group recalling significantly less experiences of questioning, delay and reasoning than students in the Growth-group. Thus, the specific literature education under study potentially offered students experiences that might stimulate their tendency to engage in de-automatized (re)construction of meaning.

Keywords: literature education, de-automatization, (re)construction, dual process theory, student experiences

1. INTRODUCTION

According to the late American author David Foster-Wallace (2005), education in the liberal arts should have one, crucial goal: to teach students to go through adult life consciously, as opposed to being steered by autonomous, automatized thought processes that constitute our 'default' state of thinking. In Foster-Wallace's mind, "[...] the really significant education [...] isn't really about the capacity to think, but about the choice of what to think about" (Foster-Wallace, 2005, p.3).

Foster-Wallace may have a point. While automatized processing enables us to smoothly interact with the world around us, it may also impede our understanding of, and engagement with, that world. For instance, automatized thought processes may consolidate thinking biases that impair critical thinking (Facione, 2015), as well as lead to a "lack of perceived control [...] which is commonly associated with a host of mental problems such as anxiety [...], depression [...] and addiction" (Kang, Gruber & Gray, 2013, p.195). Consequently, we would be smart to foster our ability to de-automatize our thinking. Unfortunately, de-automatization might be difficult, as becomes clear from so called dual process theories (Facione, 2015; Kahneman, 2011). These theories highlight the power and persistency of automatized processing in our day-to-day life. Autonomous thinking processes, in dual process theories commonly typified as System 1, are always at work in the background and provide fast automatic responses. To then consciously construct (as opposed to intuitively determine) an understanding of the world, we need to inhibit these System 1-processes (Kahneman, 2011; Facione, 2015). This inhibition makes room for sustainment of so-called cognitive decoupling, which is typical of System 2-processing: the ability to separate secondary, hypothetical, representations of the world from our primary representation of the world-as-is (Stanovich & Toplak, 2012). However, the tendency to inhibit automaticity does not come naturally to humans (Kahneman, 2011), regardless of their cognitive capacity (Evans & Stanovich, 2013). As such, we indeed may have to learn how to truly think for ourselves.

There is reason to assume that literature education is one of liberal arts' subjects that can play a role here. Recent studies suggest that literary readers may experience slowed down thinking and postponement of judgment (Djikic, Oatley & Moldoveanu, 2013; Hakemulder, 2000; Kidd & Castano, 2013), both processes that challenge automaticity and thereby may support sustained cognitive decoupling (Facione, 2015; Stanovich & Toplak, 2012). With this potential to de-automatize our thinking, the literary experience may go beyond mere interplay between automatized processes (such as recognizing words, anticipating events) and conscious processes (such as making thoughtful inferences) that is typical of all reading (Jacobs, 2015; Van den Broek, Lorch, Linderholm & Gustafson, 2001). In addition, in a recent study of a specific program of literary fiction at one Dutch school we found that 37% of variation in growth in upper secondary students' literary interpretation skills was explained by students' critical thinking dispositions and critical thinking skills (Koek, Janssen, Hakemulder & Rijlaarsdam, 2016). These dispositions and skills have been associated

with people's inclination and ability to de-automate their thinking and to then consciously (re)construct meaning from the data at hand (Ennis, 2011; Evans & Stanovich, 2013; Facione, 1990). Therefore, we assume that learning processes in the domain of literary fiction involve experiences of both de-automatization and conscious (re)construction of meaning.

However, this assumption relies heavily on learning outcomes of specific literature lessons. Consequently, whether and how students experience de-automatization and (re)construction *in the lessons* remains unclear. If teachers of literature do not know whether and how students can experience de-automatization and conscious (re)construction in literature class, they cannot actively begin to stimulate such experiences in their lessons, when they—as Foster-Wallace would have hoped—want to. Therefore, the aim of the present study is to get insight into the nature of students' experiences of de-automatization and conscious (re)construction, within a literature program that was previously tested for potential outcomes of both processes.

2. THEORETICAL FRAMEWORK

System 1 and System 2 processes may manifest themselves in many different ways, for instance as intuition, fantasy, implicit learning, metacognitive reasoning, self-regulation, self-reflection, monitoring of understanding, creative thinking, openness to experience (for studies on different types of System 1 and 2 thinking see, for instance: Evans & Stanovich, 2013; Kaufman et al., 2016). In the present study we focus on the cognitive *mechanisms* (automaticity, inhibition, cognitive decoupling and (re)construction) that theory suggests to constitute the de-automatization and conscious (re)construction processes underlying the abovementioned manifestations of thinking (Evans & Stanovich, 2013); we will not go into, nor discriminate between these manifestations.

We propose that there is reason to believe that learning experiences in the domain of literary fiction may involve inhibition of automatized processes (de-automatization) and conscious (re)construction of meaning ((re)construction). We do so, because of two concepts thought typical to the literary experience, that may trigger de-automatization and (re)construction: perceived foregrounding and refamiliarization.

2.1 *Perceived foregrounding and awareness of automaticity*

An implication of automatic processing is that we are not aware of it (Kahneman, 2011), and what we are not aware of, we cannot influence. This implies that de-automatization is conditioned by awareness of automaticity. The question is: how to raise this awareness? American philosophers Charles Sanders Peirce and John Dewey argued that such awareness can only follow from real doubt. Real doubt is not a state of mind we can engage in at will, because then there will always be our prejudices

“[...] which it does not occur to us can be questioned” (Peirce, 1868, p. 140). Instead, real doubt occurs through experiences, when a “person may, [...] in the course of his studies, find *reason* to doubt what he began by believing [...]” (Peirce, 1868, p. 140; our emphasis). In the words of John Dewey, the capacity of this reason to doubt is a “[...] problem [, that]—no matter how slight and commonplace in character—perplexes and challenges the mind so that it makes belief at all uncertain [...]” (Dewey, 1910, p. 9). In other words, real doubt-inducing problems occur when consistency between what is believed and what is perceived is disrupted.

Research into the reception of literary texts suggests that such disruptions are typical to the literary reading experience. Readers’ automatized consistency patterns (Armstrong, 2014) may be challenged by textual events that bring about the poetic function of language (Jakobson, 1995): readers’ encounters with deviation from communicative conventions they are familiar with. Such deviations (for instance, from familiar discourse, from story expectations, from reliable narrators) are commonly described as perceived foregrounding: readers may experience parts of the text stand out from the backgrounded parts that they are familiar with (Dixon, Bortolussi, Twilley & Leung, 1993; Jacobs, 2015; Koopman & Hakemulder, 2015; Murakovsky, 1932/1964). Perceived foregrounding may be defamiliarizing, i.e. have readers experience the familiar in an unfamiliar way (Jacobs, 2015; Koopman & Hakemulder, 2015; Miall & Kuiken, 1994; Shklovsky, 1917/1965). This tension between the familiar and the unfamiliar (Armstrong, 2014) may induce awareness of automaticity, as “[...] blockages to our quest for consistency may offer us the opportunity to become aware of our typical habits of pattern making and gap filling, epistemological processes that we remain happily blind to so as they function smoothly” (ibid, p. 42).

In sum, de-automatization is proposed to be conditioned by awareness of automaticity. Reading and processing literary texts may provide opportunities for this awareness to be raised.

2.2 *Refamiliarization and thoughtful (re)construction*

Because of the brain’s need for consistency (Armstrong, 2014; Kahneman, 2011), disruption of automatic consistency building typically invites us to construct new consistencies. This is also what literary readers may experience in response to being defamiliarized, as they may try to refamiliarize with the text, a process described as “[...] an intra and/or extra textual revision or re-evaluation in order to discern, delimit or develop the novel meanings suggested by the foregrounded passages” (Miall & Kuiken, 1994, p. 394). There are at least three reasons to assume that refamiliarization implies System 2-processing. First, refamiliarization involves comparing an initial understanding of the text with alternative understandings (Fialho, 2007). This is a typical example of cognitive decoupling, i.e. the ability to separate imaginary representations of the world from our primary representation of the world as is (Stanovich & Toplak, 2012). Cognitive decoupling is assumed to be the defining trait of System 2

processing, as it suppresses the incentive provided by System 1's automatized, and, consequently, fast processing to accept the first solution that comes to mind. Instead, cognitive decoupling enables us to entertain possible solutions, i.e. to think hypothetically (Evans, 2007, 2010; Stanovich & Toplak, 2012).

Second, refamiliarization may boost "[...] anticipatory reading [that] enables readers to monitor their ongoing response to the text and to shape its significance as new events fall within the scope of the anticipation (or fail to do so)" (Miall & Kuiken, 2002, p. 227). Monitoring one's response to textual events that either defy or confirm expectation, implies conscious inferencing, to fill the "gaps" and "indeterminacies" that a literary work typically invites its readers to fill (Iser, 1978), which contrasts the automatized inferencing that System 1 provides (Evans, 2010).

Third, since refamiliarization is a process concerned with novel meanings (Miall & Kuiken, 1994), it is likely that it heavily relies on working memory, in particular to what Baddeley (2000) calls the episodic buffer (see also: Miall, 2009). This buffer of "integrated episodes" (Baddeley, 2000, p. 420) serves as a carrier between perception and long-term memory, and as such allows humans to conceive new concepts from what they already know (Baddeley, 2000). Addressing the episodic buffer is associated with System 2 processing, as System 1 hardly even calls for working memory (Evans, 2010).

In conclusion, the defamiliarization-refamiliarization process that literary readers may undergo, may have them experience the cognitive mechanisms (automaticity, inhibition, decoupling and (re)construction) that together constitute de-automatization and conscious (re)construction of meaning.

Still, we cannot simply extrapolate this theoretical framework to an educational context. In the literature classroom the main agenda is to learn from and/or of literature, which makes for a different context than that of the studies of literary reading mentioned above. Those studies typically were concerned with leisure reading and experienced literary readers' responses to single literary texts. In comparison, students of literature generally have little literary experience. Moreover, as they are students, they are obligated to read and process a variety of literary texts, individually as well as communally, contextualized (for instance in lessons about literary history) and/or de-contextualized, over time. Therefore, we cannot be sure whether—and if so, in what way—students experience de-automatization and (re)construction in the literature classroom.

3. RESEARCH QUESTION

So far, the empirical support for our theory that literature education *can* stimulate students' tendency to engage in de-automatization and thoughtful (re)construction, is correlative. As we mentioned in our introduction, at one particular Dutch school 37% of students' growth in literary interpretation skills after four months of literature education was predicted by their critical thinking skills and dispositions (Koek et al., 2016), both of which have been correlated with de-automatization and

(re)construction in earlier studies (Frederick, 2005; Stanovich & West, 2013). The issue now is whether de-automatization and (re)construction were indeed part of these students' learning experiences over the course of the four months of this specific literature program. Therefore, to further validate our theory, our research question is: Which experiences of de-automatization and (re)construction of meaning—if any—do secondary school students (pre-university track, Grade 10-12, age 14-19) of one Dutch school report when they look back at four months of a specific program of literary arts? We expect to find such experiences in these particular students' recollections, since the specific program that the students followed was associated with de-automatization and (re)construction in previous research (Koek et al., 2016). Furthermore, if we identify experiences of de-automatization and (re)construction in students' recollections, we expect that students who had shown growth in literary interpretation skills after four months of literature education will recall more of these experiences than students who had not shown growth. This conditional expectation relates to known group validity: if de-automatization and thoughtful (re)construction play a role in learning from and/or of literature, then students who showed growth in literary interpretation skills should be more likely to recall these types of experiences than students who showed no growth at all.

4. CONTEXT

We conducted our study at one Dutch school of which we assumed that its students might experience de-automatization and (re)construction. In the Netherlands there are only three global objectives in the nationally determined domain of literary fiction: 1) literary concepts: students must be able to identify literary genres and to use literary concepts in their interpretations of literary texts; 2) literary development: students must be able to substantiate their responses to a minimum of 12 literary works they have read independently; 3) literary history: students must be able to give a general overview of literary history and place the works they read in an historical perspective (Nicolaas & Vanhooren, 2008). Other than these objectives, there are no prescriptions for a program of literary fiction. As a consequence, literature curricula can differ substantially between Dutch schools and even within schools between teachers (Verboord, 2005).

The school that participated in this study has implemented a literature program for upper pre-university education (Grade 10-12), which is more extensive compared to programs at most Dutch schools, both in study load and study content. For each grade, the total study load of the program is three hours per week, of which 1,5 hours are spent inside the classroom. The content of this schools' program differs from that of most Dutch schools in that it allows students to read literary works from any language or culture (besides Dutch language and culture) and in that it aims to stimulate students to reflect on the human condition. This emphasis on reflectivity implies that students are stimulated to inhibit System 1—and engage in System 2—processes during the lessons, to reach the aim of the program.

Below we will describe how the teachers of this school have operationalized each of the three global, prescribed educational objectives.

4.1 *Literary concepts*

The following literary concepts are taught: impact, characterization, point of view, time, space, symbols, motives and theme. Teaching these concepts takes 40% of the course's study load in Grade 10. The students must apply these concepts to the novels they read, and thereby enhance the quality of their reflection on what they think each novel might mean. For each novel, students spend two lessons (1,5 hours) constructing a literary mind map, in small reading groups (Koek, 2010). Such a mind map consists of eight branches, each representing one of the literary concepts, and its construction serves as a catalyst for discussing the meaning the reading group ultimately adheres to the novel.

4.2 *Literary development*

In each grade, literary development takes up 60% of the course's study load. Students of each grade read and process five literary novels, of which one is obligatory for all students in a grade. At the time of the present study these obligatory novels were: *Tschick*, by Wolfgang Herrndorff (Grade 10), *Extremely Loud and Incredibly Close* by Jonathan Safran Foer (Grade 11), *Kafka on the Shore* by Haruki Murakami (Grade 12). The teachers aim to stimulate reflectivity in students' processing of the novels, by contextualizing their reading experiences via two overarching reading topics for the current schoolyear (for instance, 'heroism' or 'impossible love'), of which each student must choose one. First, students discuss—in small groups—three given theorems on the chosen reading topic (for instance, 'A hero is lonely'), after which they write up their shared opinion on each theorem. Second, after having finished reading each novel, students write up answers to questions concerning the relation between the novel they read and the current schoolyear's reading topic. These questions differ for each book the students read. At the end of each schoolyear students answer questions about differences and similarities between the books they read, about how these books may have changed their thoughts on the schoolyear's reading topic and about what they have learned from the course.

4.3 *Literary history*

Literary history is taught in Grade 11 and 12, taking up 40% of the study load in both grades. Students' reflectivity typically is stimulated by having them discuss fragments from historical literary works (for instance *The Story of the Grail*, *Faust*, *Macbeth*, *1984*, *The Catcher in the Rye*) in small groups and letting them reflect on whether ideas from past periods still are present in modern culture: students must relate these ideas to films, advertisement, speeches (among other things). Students also

discuss whether the modern books they read fit genres and ideas from the historical periods they learned about.

5. METHOD

5.1 Design

As learning experiences in the classroom can only be reported by students, we decided to collect data by inviting students to individually talk about and reflect on the current schoolyear's literature program, in a stimulated recall interview. This interview can be considered a learner report (De Groot, 1980), which is an instrument with considerable potential for studying learning experiences that are fundamental to learning, but that cannot be measured in objective skill tests (Schrijvers, Janssen, Fialho & Rijlaarsdam, 2016; Van Kesteren, 1993). To minimize framing of students' memorizations, we did not cue the participants for the experiences the present study focusses on (advised by Gass & Mackey, 2017; Lyle, 2003): we staged the interview as a general talk about what each student had learned in the course, to leave room for any learning experience that students might recall, not just experiences of de-automatization and (re)construction. To maximize depth and clarity in students' recollections of their experiences we 1) opted for a semi-structured interview, so that the interviewer could ask follow-up questions and follow the flow of the conversation, whilst still making sure all relevant topics were addressed, which is advised to strengthen validity of interview data (Salgado & Moscoso, 2002); 2) chose to have a rich recall-stimulus (advised by Gass & Mackey, 2017; Lyle, 2003), students' literature portfolio, that participants would have access to prior to and during the interview, so as to have them in primary control of the stimulus; 3) decided to offer students a gift token of 25 euro for participation, as this might help motivate them to really invest their time in the interview.

5.2 Participants

The present study followed a quantitative study in which we had measured 271 pre-university (grade 10-12) students' 1) growth in critical literary understanding (CLU; defined as de-automatized, (re)constructive meaning making in response to literary texts) after four months of the literature course, via pre- and post-measurements of the Critical Thinking in Literary Context-test, both of which showed satisfactory internal reliability (Cronbach's Alpha .72 - .78), construct validity and correlational validity (37% of improvement in the test was predicted by skills and dispositions theoretically related to critical literary understanding), as well as high interrater reliability (CTLIC; Koek et al., 2016); 2) critical thinking skills via a single measurement of the Cornell Critical Thinking Test (CCTT; Ennis, Millman & Tomko, 2005; Koek et al., 2016); 3) critical thinking dispositions (CTD) via a single measurement of the Critical

Thinking Dispositions Questionnaire (CTDQ; Cacioppo & Petty, 1984; Eysenk, 1954; Koek et al., 2016; West, Meserve & Stanovich, 2012).

From the participants of the preceding study we selected two groups of students: a Growth group with 15 students who had shown growth in CLU (by scoring more than 1 standard deviation (SD) higher at the CTLC's second measurement), and a No-growth group with 6 students who had not shown growth in CLU (by scoring less than 0,5 SD higher at the CTLC's second measurement). We added this No-growth group to further diversify our data sources and to be able to test for known group validity by measuring quantitative differences between the two groups. Table 1 displays each student variable for each participant in both groups. The reference names are not students' real names.

From Table 1 it can be derived that we strived for a heterogeneous sample of participants, as our participants varied in 6 ways: both groups contained students of 1) both genders 2) different grade level (although there were no Grade 12-students in the no-growth group because Grade 12 was occupied with exams by the time we decided to also compile that group); 3) different classes within grades 4) different initial level of critical literary understanding—at, below and above the mean; 5) different levels of critical thinking skills and dispositions—at, above and below the mean; 6) whom had read a variety of novels. By sampling for variety between participants, we strived to strengthen conclusions derived from potential findings of similar recall between these different participants (Kuper, Lingard & Levinson, 2008; Long & Johnson, 2000).

5.3 Instruments

Interview guideline. We designed and pretested a semi-structured guideline for a stimulated recall interview to guide interviewers to retain the focus of the study throughout the interviews, whilst allowing for each interview to have its own flow. The interview guideline anticipated three conversational phases (Table 2).

1) The opening: each interview opened with a question about whether the participant had experienced any kind of insight during literature education, to let the initial direction of the conversation be determined by the first learning experience that came up in the interviewee's mind.

Table 1: Participants' gender, grade level, critical thinking skills, critical thinking dispositions, critical literary understanding (at two measurement occasions) and books read, per group

Reference Name	Gender	Grade	Critical Thinking Skills Start schoolyear	Critical Thinking Dispositions Start schoolyear	Critical Literary Understanding; start schoolyear	Critical Literary Understanding; 4 months into schoolyear	Novels Read and Processed
Growth Group							
Deborah	F	10	47	3,91	38	46	<i>Tschik</i> (2012); <i>The Fault in Our Stars</i> (2012); <i>The Golden Egg</i> (1984)
George	M	10	57	3,91	39	45	<i>Tschik</i> (2012); <i>Paper Towns</i> (2008); <i>The Snow Class</i> (1997)
Suzy	F	10	53	3,63	38	47	<i>Tschik</i> (2012); <i>Paul's Little Skirt</i> (2001); <i>No-one in the City</i> (2012)
Teresa	F	10	56	4,03	33	43	<i>Tschik</i> (2012); <i>The Fault in Our Stars</i> (2012); <i>Oeroeg</i> (1948)
Alexander	M	11	56	4,32	34	44	<i>Extremely Loud and Incredibly Close</i> (2005); <i>On Chesil Beach</i> (2007); <i>The Yellow Birds</i> (2012)
Frank	M	11	54	4,25	41	51	<i>Extremely Loud and Incredibly Close</i> (2005); <i>Axolotl Roadkill</i> (2010); <i>Sokolov's Space</i> (1992)
Deirdre	F	11	61	4,25	42	49	<i>Extremely Loud and Incredibly Close</i> (2005); <i>Axolotl Roadkill</i> (2010); <i>A Heart of Stone</i> (1998)
Harry	M	11	49	3,50	33	40	<i>Extremely Loud and Incredibly Close</i> (2005); <i>The Comfort of Strangers</i> (1997); <i>Sokolov's Space</i> (1992)
Anny	F	12	41	3,84	40	46	<i>Kafka on the Shore</i> (2002); <i>Paper Towns</i> (2008); <i>Birdsong</i> (1993)
Bea	F	12	38	4,31	39	47	<i>Kafka on the Shore</i> (2002); <i>The Stranger</i> (1942); <i>The Assault</i> (1982)
Ben	M	12	56	4,43	37	47	<i>Kafka on the Shore</i> (2002); <i>The Asylum Seeker</i> (2003); <i>Damokles' Dark Room</i> (1958)
Celine	F	12	52	3,85	28	36	<i>Kafka on the Shore</i> (2002); <i>Fame</i> (2009); <i>Isabelle</i> (1989)
Cliff	M	12	58	4,51	39	49	<i>Kafka on the Shore</i> (2002); <i>No-one in the City</i> (2012); <i>Southern Cross</i> (1999)
Fiona	F	12	54	4,03	44	50	<i>Kafka on the Shore</i> (2002); <i>Damokles' Dark Room</i> (1958); <i>The Portrait of Dorian Gray</i> (1890)
Wilma	F	12	44	3,90	37	45	<i>Kafka on the Shore</i> (2002); <i>The Plague</i> (1947); <i>A Brilliant Defect</i> (2003)
MEAN (SD)	-	-	51,7 (6,6)	4 (0,3)	37,5 (4,1)	45,7 (3,9)	
No-growth Group							
Dave	M	10	33	3,79	37	36	<i>Tschik</i> (2012); <i>The Golden Egg</i> (1984); <i>Chimeras</i> (1984)
Geraldine	F	10	57	3,86	35	34	<i>Tschik</i> (2012); <i>The Fault in our Stars</i> (2012); <i>Oeroeg</i> (1948)
Boris	M	10	46	3,84	31	33	<i>Tschik</i> (2012); <i>The Golden Egg</i> (1984); <i>The Silence of the Sea</i> (1942)
Eve	F	11	45	3,46	35	34	<i>Extremely Loud and Incredibly Close</i> (2005); <i>Muleum</i> (2007); <i>The Great Gatsby</i> (1925)
Eric	M	11	26	3,75	39	38	<i>Extremely Loud and Incredibly Close</i> (2005); <i>Montyn</i> (1982); <i>The Regretability of Things</i> (2006)
Julia	F	11	62	4,31	50	50	<i>Extremely Loud and Incredibly Close</i> (2005); <i>The Confidant</i> (2011); <i>The Angel Maker</i> (2005)
MEAN (SD)	-	-	44,8 (13,7)	3,8 (0,3)	37,8 (6,5)	37,5 (6,4)	

2) The core: following the participant's answer to the first question, the interviewer would then initially focus on one of the three main contexts of learning experiences: reading, learning activities and teacher activities. The other two contexts the interviewer would address later on, separately or intertwined with each other, following the flow of the conversation. However, a common problem with flow in recall-interviews is that participants might not speak spontaneously about the experiences the study focusses on, even if they did have them, for instance, when these are not the first experiences they recall, or when they assume the experience to be unimportant. To address this problem, we foresaw questions at three possible stages of clarification, for each of the three main contexts: A) open questions about general experiences in the context at hand; B) follow up-questions about elaboration on these experiences; C) probing questions about indicators of de-automatization and/or (re)construction experiences. In this way we tried to allow for both direct references to as well as piecemeal recollections of experiences of de-automatization and/or (re)construction, without putting words in the interviewee's mouth.

3) The closing. At the end of each interview the interviewees were asked whether they had something to add to what they already had said, or wished to return to earlier statements, to give them the possibility to further clarify their recalled experiences.

Each interviewer was equipped with a topic list containing the three domains of the course (literary concepts, literary development—including prose and poetry—and literary history), to make sure each of them was addressed in every interview, so as to provide opportunities for the interviewees to recall experiences within each domain.

Stimulus. Each student had compiled a literature portfolio during the course, which was used as a recall stimulus during the interviews. These portfolios consisted of three types of tasks: before, during and after reading tasks. Before reading tasks contained students' written opinions on the chosen reading topic. These typically took up 10% of a portfolio. During reading tasks contained all five literary mind maps the student participated in constructing, and all written answers to the questions about relations between the novel and the reading topic (all Grades) and literary history (Grade 11 and 12). These tasks typically took up 60% of a portfolio. After reading tasks concerned similarities and differences between the novels, how reading the novels might have changed students' opinions on the theorems about the schoolyear's reading topic and what they learned from the current schoolyear's literature lessons. As part of these after reading tasks students also had to title their portfolio and add a motto to it.

Table 2: Phases, topics and examples of questions from the interview guideline

Phase	Topic	Starting question	Probing explanation (example)	Probing experiences of de-automatization and reconstruction (example)
Opening	General insight	Do you recall having a particular insight, something that you came to understand during literature education?		
Core	Reading experiences	Of all the books you read this year, which book left the most impression on you?	If I would be mainly interested in style/in the way the novel is written: what would you tell me about this book then?	Has this book made you think differently about something? If so: how did that come about?
	Experiences in relation to learning activities	If someone would ask you what's the point of doing all those class assignments, then what would your answer be?	If I would have sat beside you and had been able to read your mind when you were doing an assignment. What would I have seen and heard?	Have you done (parts of) this assignment a second time, to improve your answer? If so: describe what you did.
	Experiences in relation to teacher activities	When you think back at miss/mr..... as a literature teacher, what – according to you - is her/his greatest quality?	Describe what your teacher did in a typical lesson	Did your teacher ask many questions during this lesson? Describe the effect that had on you.
Closing		Is there anything you want to add or emphasize?		

Training of interviewers. The interviews were conducted by the first author and a second, trained, interviewer, both teachers at the participants' school. The training included instruction about critical thinking indicators, asking open questions and leaving gaps of silence to allow the interviewees to speak their mind. As part of the training the two interviewers practiced working with the interview guideline and topic list by interviewing each other, giving each other feedback afterwards, mainly on how to remain neutral in wording and facial expression and on asking follow up-questions. The training was concluded with a pilot interview between the first author and a student (Grade 12), that the second interviewer attended.

5.4 Data collection

Each of the participants was invited by email (Appendix); none of them declined the invitation; all accepted it within one week. All interviews took place at the participants' school. To maximize each interviewee's safety, the interviewers did not interview their own students. Furthermore, each interview was held one week after literature education had concluded for that particular grade (grade 12: April; grade 10-11: June) so students knew that what they said in the interview could not affect their grades, and, before each interview started, the interviewers stressed that because the research is about honest opinions and personal experiences, the participants could say anything they wanted during the interview.

The student's literature portfolio was used as a recall-stimulus at three stages: 1) prior to the start of each interview, the participants were left alone in the interview room with a single question to ponder: "When you look back on the first four months of literature education of this schoolyear, do you recall a moment of insight?". They then had fifteen minutes for themselves to reflect on this question and to page through their portfolio, before the interviewer came in to start the interview with that same question; 2) during the interview the participants could—either by themselves or when asked to by the interviewer—make use of their portfolio to illustrate what they remembered, or, when memory initially had faltered, to help recall experiences they had when creating their portfolio; 3) at the end of each interview the portfolio gave the interviewers opportunity to ask some additional questions, for instance when students had written about experiences of de-automatization and/or (re)construction in their portfolio, but had not referred to these during the interview.

The interviews lasted 51 to 80 (mean 68) minutes in the Growth group and 50 to 72 (mean 63) minutes in the No-growth group. All interviews were audio-recorded. After each of the first four interviews, the interviewers came together to reflect on the flow and depth of the interview, as these appeared from the audio-recordings. The recordings were transcribed by two research assistants following the intelligent verbatim approach for transcription, since in discerning categories of cognitive experiences it is suitable to prioritize comprehensibility and readability above exact reproduction of spoken language (Hadley, 2017). All interviewees were emailed the transcript of their interview and were asked whether they thought the transcript displayed their words correctly. By email they all agreed that it did, except for some misspellings of names of characters in films and/or videogames. All transcripts were then loaded into qualitative analysis software Atlas TI 7, for data reduction and data analysis.

5.5 Data analysis

Data analysis was done by the first author, in five steps.

1. Segmentation of transcripts

As the aim of our study was to validate theory, the first step in our analysis was deductive: we used our theoretical framework as a search light theory, applying sensitizing concepts to search for segments within the transcripts that might relate to experiences of de-automatization and (re)construction. In this first step, each of the transcripts was read three times in its entirety, by the first author. During the second and third read-through segments of the transcripts were selected in which the participants verbalized disruptions in automatized consistency building, indicated by phrases such as: 'stopping to think', 'wondering', 'asking oneself', 'being frustrated', 'being aware', 'having a hard time to understand' (for de-automatization) and working towards new consistency, as in 'discuss', 'we thought...because' 'argue', 'decide', 'understand as' (for (re)construction). The length of each selected segment was determined by the interviewer's questions; the starting point being the question that preceded the verbalization of de-automatization or (re)construction, and the ending point being the first subsequent question that was not a follow-up question. The resulting 379 segments about either de-automatization (179) or (re)construction (200) varied in length between 40 And 780 words, with a mean of 154 words. Together, the segments represented 46% of the total number of words (215613) in all transcripts.

2. Open coding for separate de-automatization and (re)construction experiences

To chart the nature of de-automatization and (re)construction in the literary course, separate experiences were coded within each of the segments; first in those about de-automatization, then in those about (re)construction, for better focus. Coding was done bottom-up: each separate experience was summarized in a code. Separateness of experiences was determined by a change of verb and/or topic in the participant's expressions, for instance three different codes were assigned when, in talking about reading a particular novel, a participant spoke about 'having a hard time to understand a character's motive', 'being repelled by a character's actions' and 'paging back to see whether an event was foreshadowed'. After coding these segments, all codes were reflected on, which resulted in 1) correcting misspelled codes and merging codes that referred to the same experiences; 2) deleting codes that were not related to our research question, for instance: 'asking for the teacher's help'. In the end, this second analytic step yielded 117 codes for de-automatization and 142 codes for (re)construction, with which 515 experiences were coded, amounting to 38% of the total number of words in all transcripts.

3. Coding for categories of de-automatization and (re)construction experiences

To gain insight in participants' experiences at a higher conceptual level we grouped the separate codes into categories, by iteratively comparing and contrasting the verbs, subjects and objects of all codes. For instance, 'seeing connections between a novel and literary history' and 'linking plot events to an abstract motif' were grouped

under a new code 'establishing links'. This third analytic step reduced the number of codes to 19 for de-automatization and 12 for (re)construction.

4. Selective coding for types of de-automatization and (re)construction experiences

To further refine our typology, the category codes were grouped to form distinct types of de-automatization and (re)construction experiences, by iteratively selecting category codes that implied similar underlying cognitive processes. For instance, in both 'being aware that a literary text asks one to think about meaning' and 'being aware that authors make choices' there is notion that a reader can find and/or make meaning at a deeper level than the face-value of the story—a de-automatization experience that was ultimately typified as interpretation awareness. In the end, this fourth analytic step yielded six types of experiences, three for both de-automatization and (re)construction. Table 3 shows the coding scheme we ultimately arrived at, with examples from the data.

5. Quantitative analysis of group differences

To determine whether or not participants in the Growth group recalled more experiences of de-automatization and (re)construction than participants of the No-growth group, we used SPSS to calculate, for both groups, the percentage of participants who had recalled a type of experience at least once during the interview. Furthermore, we calculated mean and standard deviation of the number of times a participant had recalled a particular type of experience, for both groups. We conducted Crosstabs analysis (Pearson's Chi-Square) for the percentages and analysis of variance (ANOVA) for the means to determine whether group differences at these two metrics were statistically significant.

5.6 Reliability of coding scheme

After all coding was done, a second rater was provided with a written explanation of the six final codes. On the basis of this explanation, this rater then coded 10% of all experiences (50 in total, randomly picked from both groups, contextualized by interviewer's questions and/or interviewee's surrounding utterings). Agreement between the first and second rater was substantial (Cohen's Kappa .75). Subsequent training (by the first rater), and secondary coding of another 10% of experiences, improved agreement between the two raters (Cohen's Kappa .85).

Table 3: Final coding scheme: types of de-automatization and (re)construction experiences with definitions and examples from data

Process	Type of Experience	Definition	Examples
De-automatization	Questioning	Not being able to fit what is read and/or learned in the existing cognitive scheme	It was a difficult novel, because, he was suffering from dementia, so you get short sentences, and he talks about himself in third person and at the end there were only single words. Really difficult to read. That such a criminal was the only person who had a reasonable happy life during the plague, that frustrated me.
	Interpretation Awareness	The notion that a reader can find and/or make meaning at a deeper level than the face-value of the story	When something is described extensively, a kind of alarm goes off in my head. That I have to focus on this. Sometimes I thought maybe I should be thinking more about whether I like the book, instead of constantly being on the look-out for symbols, motives etc.
	Delay	Continuous processing is suspended in favor of prolonged thoughtfulness	Sometimes, when I am reading a book, I lay it aside for a moment, to think about it. You can, like, think about it endlessly, with all kinds of different scenario's in your head. And so, yes, it sticks with you, always when you are busy with something.
(Re)construction	Reasoning	The effort to analyze and/or infer parts to whole-relations	She has her deceased brother and sister talking in her head and she is constantly thinking about the drama. So, it becomes clear that she has a hard time processing it. With <i>Yellow Birds</i> and <i>Muleum</i> , we could connect those two novels together. And then you have aspects of literary history that you can consider as a link between the two books. I really like that: that you can find such things, and that everything is connected.
	Considering alternatives	Contemplating multiple possible meanings beside the one first thought of.	I do like to hold on to my opinions, but, when I hear something in someone else's words and I think, 'yes, that is good.' then I won't jump over to that other opinion immediately, but I will like put it together with my own After reading <i>Sokolov's Space</i> we all had different opinions about it, about motives, the theme. So, we had a lengthy discussion about which ones we could use and why.
	Concluding	The explicit choice for the most reasonable outcome of a thinking process	These are the conclusions I came up with, so I can be proud of that. That I have been thinking in this manner, that I could choose these from the endless options that you could review yourself. With such a book as <i>The Great Gatsby</i> , I gain new insights.

6. RESULTS

We will present¹ our results in three steps: 1) descriptions of each de-automatization type; 2) descriptions of each (re)construction type; 3) descriptions of quantitative differences between the Growth group and the No-growth group.

6.1 De-automatization

Questioning. All participants recalled one or more experiences when they had questioned what they read for literature class. Deborah (Grade 10) read the novel *The Golden Egg*, a story about Rex whose girlfriend Saskia disappears while they are on holiday. Eight years later Rex meets Raymond, who admits he abducted Saskia. He gives Rex the choice to either get to know what exactly has happened to Saskia and undergo her fate, or to walk away, without ever knowing Saskia's fate. When Deborah was asked to choose from a list of emotions the ones that best fitted her experience of reading the novel, she chose 'surprise' and 'incomprehension':

Surprise I felt at the end, when Rex did choose to see what had happened to Saskia. And incomprehension mostly about why Raymond did what he did. Because, first he had saved someone's life and after that he thought he now also could take someone's life. That's just really hard to understand for someone who is a normal person, you know. Maybe I felt a bit of frustration also, but that goes together with incomprehension... just like 'Why would you do something like that?'

Questions like this arise when students cannot fit what they read or learn to their existing cognitive scheme, i.e. an internalized body of knowledge, ideas and convictions that helps people to make sense of information (DiMaggio, 1997), as is what happened to Deborah when she was confronted with a character's motives that were alien to her.

The literature course offered many different occasions at which students' cognitive scheme can be challenged. In response to story expectations, for instance, as in the case of George (Grade 10) reading John Green's *Paper Towns*. Beforehand, he was not keen to read the novel, as he thought of John Green being a writer of stories for girls. However:

The plot did not go as I expected [...] Margot wanted to put a dead fish in Lacey's car. That was unexpected funny. [...] Why a fish? That sparked my interest in the novel and made me think about whether there could be more in it, for me.

¹ In illustration of our findings, we use quotes from the interviews. To cut lengthy quotes we omitted repetitive phrases, detours (like 'luckily, I had bought the book myself, so I did not need to go to the library to look it up') and references to earlier moments in the interview that did not add content ('And that also happened when I read *De aanslag*, like I told you earlier'). Wherever we omit parts of the transcript, we indicate that by: [...]. We precede questions that the interviewer asked with Q:.

Or when needing to decode language, like what happened to Deirdre (Grade 11) when she had to interpret the ending of the novel *Axolotl Roadkill*, by Helene Hegemann:

First, I go: what do I think of this? Because it's quite a strange sentence. 'The night again...a struggle with death': that is strange anyway. It really is a strange fragment, you must read it again, and you think: huh? [...] You think 'The night a struggle with death again'? That can never be, of course. Or, maybe it can be, but still it is a bit strange. [...] So, you begin with reading, and immediately you are thinking: What's this about?

Or when confronted with moral unbalance, for instance when Wilma (Grade 12) was frustrated by the relatively good life that a non-likeable character in Camus' *The Plague* led, amidst the mayhem:

Q: You say you were fascinated by that character, by the fact that he did not die. Can you explain that?—He was a criminal, but due to the plague criminals were left alone. And he flourished during the plague. While the others were sad, losing loved ones, he got happier and happier [...]—Q: What went through your head when you read that? What happened to you?—Well, I did not feel any compassion with him, but that precisely he was the one who had a good life was frustrating, indeed.

Or in self-reflection, as that was what happened to Ben (Grade 12) when he found himself liking protagonist Beck in the novel *De asielzoeker* [The asylum seeker]:

That startled me. Beck, for instance. He is a bit strange. And then I think: Am I strange as well?

In each of the above occasions of questioning, the recurring element is the inhibition of automatized processing: questioning thereby signals that students recognize they cannot rely on automatized responses.

Interpretation awareness. All but one of the participants mentioned becoming aware that literary texts invite readers to interpret what is written, rather than merely process it. An example of this awareness can be found in the words of Celine (Grade 12). She talked about how much she had enjoyed making literary mindmaps:

It gives structure and it teaches you to think differently about the book. Because, when I read a book I read it and then it is finished. But when I read it for literature class, I have to think about it, so I start looking for more [...]. It makes you think differently about the book. It is kind of a second novel you create.—Q: What do you mean by 'creating a second novel'?—Yes, a more profound novel. So, not just *The Fault in our Stars*: love story, someone is ill, that's it. But in *The Fault in our Stars* so much more is happening in what they talk about all day, like in the journey they make, what they pass through. Like, yes, smoking. He had a cigarette, every time. I thought: a metaphor. And, well, that's stuff you don't think about normally, but you do now. It brings something extra. I like it a lot.

The gist of interpretation awareness is the notion that a reader can find meaning at a deeper level than the face value of the story. This notion elicits heightened attention to details in the story that would have been taken for granted during 'normal' reading. How this focus on details may be experienced during reading becomes clear from the words of George (Grade 10), who described how the way he reads novels has changed after four months of literature education:

I am reading through a book and then it depends on how it is described. When something is described extensively, for instance, then a kind of alarm goes off. That I must pay attention. Then I take a little time to think, like: 'What is this?'

George's description shows that a focus on details of the story leads to inhibition of automatized processing, when the reader feels there is room for interpretation.

In its most extreme, interpretation awareness can extend beyond the classroom and beyond reading even, as was expressed by Alexander (Grade 11) when he spoke about how learning about symbolism has changed his perception of his surroundings.

That's what I also want to talk about: I see so much more in things, like video games and things, I see symbolism in them, and I really like that [...].—Q: What do you like about it?—In grade 10 I think, in grade 9 I thought like literature is nonsense, and it is all bullshit and looking for things. And then in grade 11 there's kind of a break-through, like: everything is literature, actually. That's kind of an 'aha'-moment.—Q: That's nicely put, 'everything is literature', but can you tell me more about it?—Well, you can find symbols everywhere, actually. And maybe they're not... what am I trying to say... maybe they're not intended, but, and I have read this somewhere, I don't know where, that [...] we create symbols unconsciously. So, you could say that actually everything is literature.

Alexander's last two sentences highlight that interpretation awareness can also involve the idea that readers/observers can make meaning, in addition to finding it, that is, readers are not restricted to just undergo a text, but can add to it.

Delay. Sixteen of the 21 participants articulated experiences that indicate going through literature lessons may slow down cognitive activities. Deirdre (Grade 11), for instance, was asked to explain what she meant by feeling that she has become a more attentive reader:

When you are little, you read a nice story and when it's over, it is finished. Now you're thinking much more... yes, sometimes when I'm reading a book I lay it aside for a moment to think about it.

Typical to such an experience of delay is the element of postponement: continuous processes (like keep reading a story) are suspended in favor of a prolonged state of wondering about what was read; it is like not yet taking a step forward, but a step to the side instead.

This postponement can manifest itself in different ways in students' experiences. For instance, in backtracking reading experiences, like George (grade 10) described when he told us what has changed in the way he reads novels:

When I see something return a lot of times, I page back to see 'where was this before?'

Or when closure is suspended, like in the lingering Teresa (Grade 10) experiences after reading a novel with an open ending:

You don't know what really happens there. There's no certainty. You can, like, think about it endlessly, with all kinds of different scenario's in your head. And so, yes, it sticks with you, always when you are busy with something.

Or in experiencing a belated insight in response to a classroom assignment, like Suzy (Grade 10) mentioned when she talked about what she thought of a fragment of the movie *Magnolia* that was shown in class:

The fragments that are shown are not easily grasped. That movie *Magnolia*, those frogs, I only grasped it like weeks later, when you have those moments in bed before you go to sleep, or just when you are leaving for school. Shit, that frog-rain is really a kind of a biblical story. I just need more time to think about something as vague as that.

Or in experiencing reading as a contemplative state, like Cliff (Grade 12) talked about when he was asked to sum up his experiences with literature education:

A whole new world has opened to me, so yes, surprising new things.—Q: I am curious... What is this 'whole new world'?— Well, I never really have been a reader. I do read, occasionally, but in literature class you are obliged to read books. In the beginning, that is a burden and in the end, in grade 12, it often was a moment of stillness, silence.

In all quotes in the former paragraph, delay is expressed as a distinguished cognitive state, in that it differs from automatized, continuous cognitive processing.

6.2 (Re)construction of meaning

Reasoning. All but one participant recalled experiences that pertain to processes of establishing parts to whole-relations. An illustration of such a process is articulated by Deirdre (Grade 11). She and her friends had read the Dutch novel *A Heart of Stone*, about the 37-year old Ellen, who is the sole survivor of a childhood drama: her mother killed her brother and sister in their sleep, before killing herself. When asked how she and her reading group came up with the theme (i.e. the overall meaning that the reading group attributes to a novel) of this book, Deirdre answered:

Well we have as theme 'Before you can process a trauma you have to understand why it has happened.' I think we started to think about that because it is really clear that Ellen is not at ease when she does not know yet why the tragedy happened, she is constantly thinking about it. So, it resembles an obsession, it takes over her life. She also has her deceased brother and sister talking in her head. And then you think: so that is really an issue for her, but eventually those voices disappear, and she sells her childhood home, and she finds closure and then you think, yes, first it was because she really did not know what happened, she was like 'How could it be? How could it be?' Because, with the mother, that's just so strange. And the strangest thing is that her mother skipped her. She just can't understand that. And then, because she finds out that her mother has simply forgotten her and that her mother had a postnatal depression, then that are the things that help her to find closure. And that's approximately how such a theme comes about.

As can be derived from Deirdre's words, establishing parts to whole-relations is in essence a linking activity: reasoned links tie together disparate story elements and an overall understanding of the novel.

During the literature course students experienced linking parts and linking parts to a whole at many different occasions. For instance, when trying to make sense from a novel's seemingly disparate characters and events, as was how Wilma (Grade

12) did in class, after experiencing difficulty in following the plot of Haruki Murakami's *Kafka on the Shore*:

Q: Do you recall a moment of insight, a 'eureka' feeling, in literature class?—Well, *Kafka on the Shore*. You had read it at home and you still had no clue what really happened in the story. But when talking about it in class, you finally understood 'Oh, the 'closing stone', that will come back in the story, or the leeches falling from the sky... Well, then it hit you like 'o, this does have a connection with other things. And the man with the cats, and Johnny Walker, I had not yet linked him with Kafka, until others suggested it. That was a moment when the characters came together and when it became one story again.

Or in applying knowledge of literary history to connect different novels with each other, as is what Alexander (Grade 11) experiences when he is constructing a mind-map.

Q: Can you tell me what goes on inside your head when you are constructing a mind-map?—Well, yes, you have found a symbol and then you consider what you know from literary history, like what could literary history tell me about this symbol? And then, for instance, you see that the symbol really has a lot to do with a certain aspect from literary history, and then you have a link. And then you could go further, like that symbol really resembles something I read in another novel. We had that with *The Yellow Birds* and *Muleum*, we could link those two novels together, and *The Cement Garden* and *The Yellow Birds*. And then you have aspects from literary history that you can consider as a link between the two books. I really like that: that you can find such things, and that everything is connected.

Or in associative reasoning, as what was what Ben (Grade 12) had engaged in when he inferred that a poem he was interpreting was about an elderly person.

Q: You say 'inferred', how does that come about?—Well, for instance, I see a sentence, like here: 'To almost nothing and continuously between four of the same walls I sit in the room' And if it is continuously the same room, then you always sit in that room. Then I thought about elderly people, who are tied to their places. Maybe such a person wishes that people come to visit, but he cannot make that happen by looking out of the window 20 times a day. [...] So, for myself I could link this sentence with a senior sitting behind the geraniums.

What all these experiences of reasoning have in common, is that they are purposeful: students engage in them to explain to themselves or others why they understand (parts of) a literary text in a particular way or to make a particular meaning from the text. Deirdre (Grade 11) has become aware of this purpose during the literature course, as is shown in the following reminiscence:

Q: When did you get that insight about *A Heart of Stone*?—I don't know exactly, but I do know that I was helping someone, someone in 10th grade who came over from another school and who had no experience with this. She had read *The Fault in Our Stars* and I read that book the previous schoolyear. She asked me: how do I come up with a theme? What is important in the novel? She began with: 'What is the theme?' and I think I said everyone has his or her own theme, so I begin with 'I think that this and that might be motives, symbols', but she said 'yes, but what is the theme?' Well, yes..., but...I answered: You can have a theme, like take it from me literally, but when you can't substantiate it, it is of no use to you. So, I started to explain it a bit, and 'that might be

important also' and then it hit me: oh, that's what the story is about! So, by explaining it to someone else, I find out more about the book for myself.

In other words: for students in the literature course, meaning is constructed through links between the whole and its parts. As such, reasoned links form the backbone of (re)construction of meaning.

Considering alternatives. All but two participants recalled one or more experiences of contemplating multiple possible meanings at the same time. George (Grade 10), for instance, found himself at a conundrum when he had to evaluate the ending of the novel *Tschick*. At the final pages of this novel, Maik, a 15-year-old German boy with rich parents who hardly speak to each other, throws many pieces of furniture into the family's swimming pool, before jumping in himself.

Q: Do you recall an assignment you found difficult to do?—This one, for instance: 'Is the end of the novel *Tschick* positive or negative?'. We really had to weigh between what we read and what we felt and thought. Because we thought he committed suicide when he jumped into the swimming pool, amidst all his furniture, but in the text, it says that he is happy—it says literally 'I am very happy', but you don't get that feeling. Positive and negative are kind of opposites, so there's always something in between: it is not entirely positive, but also not entirely negative. Then I am having difficulty to evaluate which one it is.

What becomes clear from George's words is that considering alternatives involves decoupling how one perceives a text from what a text might mean: what is read can be understood in several ways.

This decoupling of meaning from perception occurred in different ways in the course. For example, in letting a fellow student's alternative idea exist next to one's own, as we can derive from Deborah's (Grade 10) account on how she experiences discussions about the construction of a literary mindmap:

Q: How does such a discussion go? Do you hold on to your opinion for a long time, or...?—I do like to hold on to my opinions, but, when I hear something in someone else's words and I think, 'yes, that is good.' then I won't jump over to that other opinion immediately, but I will like put it together with my own. So, I want to have my opinion in it, but it is not a must, because other people can have good ideas also.

Decoupling meaning from perception can also be experienced in evaluating a character's moral stance, as is what happened to Fiona (Grade 12) when she read *Damokles' Dark Room*, a World War II novel in which protagonist Osewoudt allegedly receives several high-risk assignments in name of the Dutch Resistance, brought to him by the mysterious Dorbeck:

Q: Which novel has impressed you the most?—Good question. I think *Damokles* because it so clearly shows point of view. That is something you usually do not think about. Because of this book I saw 'Wait, a first-person point of view is completely unreliable.' Q: Can you tell me a bit more about that? How did you come to see that?—In the beginning you think that Osewoudt is Dorbeck's friend, and that he is part of the resistance, doing good things, fighting the Nazi's. The further you are in the novel, the more things that you thought you were sure of can be questioned. Maybe he is a Nazi himself, maybe he has no clue about what is happening. Whether Dorbeck even exists, that you don't know also. [...] Q: Did the novel make you think differently about things?—Well, about point

of view, mainly. About that you never must go with one person's story, but that you really have to look at multiple sides and not have an opinion immediately. Because you can't rely on the story of just one person.

What becomes clear from the quotes above is that considering alternatives is part of meaning making in the literature course: in contemplating different possible meanings students evaluate their own understanding of (parts of) a novel.

Concluding. All but two of the participants experienced one or several moments of closure during the literature course, at which they felt the meaning making process had arrived at an end. Ben (Grade 12), for instance, remembered how he felt after finishing his assignments on *Kafka on the Shore*:

Q: Did you experience beauty in 12th grade also?—Experiencing beauty... Well, it is more like the satisfying feeling after *Kafka on the Shore*. That I thought: I do not understand it, not everything I mean, but I did really think about it. These are the conclusions I came up with, so I can be proud of that. That I have been thinking in this manner, that I could choose these from the endless options that you could review yourself, that I am—eventually—satisfied.

From Ben's words we can derive that an experience of conclusion does not necessarily involve complete understanding: conclusion is perceived as the most satisfying outcome of a thinking process at a given time.

This outcome of reasoning can be felt as an individual achievement, that cannot be rejected easily, as becomes clear from Bea's (Grade 12) experience in discussing the theme of *Animal Farm*:

Q: Can you remember a novel that you and your friends thought differently about?—Yes, with *Animal Farm*. [...] That was a strange novel, actually. And we did have a bit of a quarrel about it, sometimes. For example, it is well known that the book is about Communism and the like, but I had read some things in it so that I also thought it somehow resembles the revolt in the Renaissance or something, I thought it had a lot of that too. And then they said 'Huh? But it is simply about Communism, isn't it?' And they wanted to stay with that opinion, and then I said that is fine, but then I will write another answer in my portfolio, because, yes, that fits better with my logic.

The individuality in experiencing an outcome of a thinking process can also manifest itself in having learned a lesson for life, as is what happened to Fiona (Grade 12) after reading *The Great Gatsby*.

Q: In your portfolio you write 'Literature learns you things about yourself and about life and makes you think about what you're actually doing.' Can you tell me more about that?—[...] Such a book gives you a life experience without having experienced it yourself. You see, it is an experience you yourself might never have, and for me, with such a book I gain new insights. I experienced it mainly with *The Great Gatsby*. That such an old book still pertains... that the whole of society is stimulated by money, that this is still the case. That, even when you're still just at school, you think about the levels you should achieve, because you want to go to college, because you want to get a good job. That you're driven by money and the idea of needing money because without it you're nothing. That makes you think about whether that is right, and the effect it has on you.

To sum up, experiences of concluding are part of (re)construction of meaning, as they are manifestations of a new, personal belief or stance that is grounded in thinking things through.

6.3 Quantitative differences between the Growth and the No-growth group

Table 4: Overview of occurrences of types of de-automatization and (re)construction experiences, in percentages of participants and mean and standard deviation per participant, for both groups

Type	% of participants		Mean (SD)	
	Growth	No-growth	Growth	No-growth
Questioning	100	100	7.1 (3.7)	2.3 (0.8)
Interpretation Awareness	93	100	4.5 (2.9)	3.7 (2.9)
Delay	100	17	3.3 (2.1)	0.2 (0.4)
Reasoning	100	83	8.8 (4.1)	3.7 (2.6)
Considering alternatives	93	83	2.6 (1.6)	2.2 (1.3)
Concluding	93	83	3.1 (2.8)	1.5 (1.6)

Table 4 shows, for each of the two groups, what percentage of participants did recall a type of experience at least once and how many times each type of experience was recalled per participant, on average.

Table 4 hints at two notable quantitative differences between the Growth and the No-growth group. First, while in both groups virtually all students reported five of the six types of experiences that we identified, delay experiences were only reported by 17% of the No-growth students, in large contrast to the 100% of Growth-students who recalled this type of experience. Crosstabs analysis revealed that this difference between the two groups was significant (Pearson Chi-Square = 16.41, $p < .0001$), while the other, smaller, differences were not ($p = .505 - .714$). Second, on average, No-growth students recalled fewer experiences of all six types. ANOVA showed that this difference between the two groups was significant with experiences of questioning ($F(1, 19) = 9.43, p < .006$), delay ($F(1, 19) = 13.57, p < .002$), and reasoning ($F(1, 19) = 7.90, p < .011$), and not with the other three types of experiences ($p = .22 - .56$).

7. DISCUSSION

Our analysis of interviews with 21 Grade 10-12 pre-university students showed that, at least for the particular literature course these students followed, learning experiences in the domain of literary fiction involved de-automatization and (re)construction. We identified three types of de-automatization experiences: 1) questioning: experiences of being pulled up short by textual events that defy existing cognitive schemes. These often occur in the form of questions, for instance, in reaction to a character's actions or to unfamiliar discourse; 2) interpretation awareness, i.e.

awareness of the possibility to find or add meaning in/to the text beyond the text's face value. These experiences typically occur in the form of heightened attention to textual details that would have been foregone in normal reading; 3) delay, experiences of postponement of one cognitive activity in favor of another, for instance in pondering what was read instead of reading further, or in experiencing reading as a contemplative state.

For (re)construction we also discerned three types of experiences: 1) reasoning, which involves the effort to analyze and/or infer parts to whole-relations, by establishing reasoned links between disparate elements within or between texts; 2) considering alternatives, i.e. contemplating multiple possible meanings at the same time, either in discussion with fellow students or within oneself; 3) conclusion: the explicit choice for one plausible meaning above other possible meanings. Conclusion experiences were not conditioned by a feeling of complete understanding, but rather of personal achievement.

Furthermore, our analysis suggests two quantitative differences between students who had improved their literary interpretation skills (Growth group) and students who had not (No-growth group): Delay experiences were almost exclusive to the Growth group and—on average—students in the Growth group reported more experiences of questioning and reasoning than students in the No-growth group did. Below, we will elaborate further on how the six types of experiences we found may be understood in terms of processes of de-automatization and (re)construction. In addition, we will discuss possible limitations of our study and some implications of our results for educational practice and future research.

7.1 Understanding de-automatization experiences

Questioning and interpretation awareness. Of the three types of de-automatization experiences we can consider questioning and interpretation awareness as experiences in which de-automatization is evoked. We proposed that perceived foregrounding might trigger de-automatization, and questioning experiences show that this can indeed be the case in literature class: students' cognitive schemata are challenged by textual deviations from what they know, believe or understand. This finding corroborates the pure-capture theory of pre-attentive processes, which proposes that what is pre-attentively perceived becomes attentively processed through stimulus salience, i.e. the extent to which the stimulus stands out from its background, also often referred to as bottom up-processing (Folk & Remington, 2006). On the other hand, experiences of interpretation awareness suggest that de-automatization experiences in literature education can also be triggered top down, via contingent capture, i.e. the idea that the reader's intentions direct the brain to select stimuli that fit with those intentions (Folk & Remington, 2006). This top down processing corroborates findings by Zwaan (1994) who found that the sole notion that one is reading a literary text slows down reading and boosts attention to details in the text. The literature course that we studied, appears to provide opportunities for both

bottom up and top down triggering of de-automatization. As both questioning and interpretation awareness were reported by virtually all participants, we suspect that bottom up and top down processing are not mutually exclusive but can accommodate each other in literature lessons.

Delay. Delay can be seen as an experience in which de-automatization is sustained. This sustainment can also be related to foregrounding theory. Koopman and Hakemulder (2015) argue that pauses in reading may be inherent to perceiving foregrounding. A recent study adds that these periods of postponement in reading can deepen a reader's sense of being absorbed in the text, as readers often experience the text as more meaningful to them after rather than before the postponement happened (Balint, Hakemulder, Kuijpers, Doicaru & Tan, 2017). This enhanced absorption in the text may facilitate sustainment of de-automatization, as being invested in a particular context may help stop mind wandering, which is a common breach in this sustainment (Evans & Stanovich, 2013). Sustainment was certainly facilitated in the instances of delay that we found. Students expressed how they took (and needed) time to process what they had read, sometimes beyond school hours. Such sustainment resembles findings by Dixon et al. (1993) that suggest that effects of reading literary fiction are emergent, i.e. in need of consideration and reflection, that take time. As such, delay experiences may indeed offer "[...] an opportunity for reflection" (Balint et al., 2017, p.36), a claim also in line with dual process theories, that propose that System 2-thinking is typically slow thinking (Evans & Stanovich, 2013; Kahneman, 2011; West et al., 2008). The relatively low frequency of delay experiences students reported may indicate that their occurrence is not a given in an educational context.

7.2 *Understanding (re)construction experiences*

Reasoning and concluding. Reasoning and concluding can be seen as experiences in which (re)construction of meaning is founded. We proposed that refamiliarization implies actively filling in gaps in the text, to develop novel meanings. The reasoning experiences students reported were indeed about filling such gaps. Students were concerned with linking together disparate elements of the text, or between texts, to form new parts-to-whole relations. This concern might be explained by research into the extent to which inferencing takes place during reading: "standards of coherence that act as criteria for comprehension [...], dictate the inferential activities in which the readers engage at each point during reading." (Van den Broek et al., 2001, p. 1082). The high count of linking activities our participants recalled, may indicate that they had high standards of coherence when they read for literature class. These high standards are anticipated by earlier studies that suggested that readers consider literary texts as having a 'point' (Vipond & Hunt, 1984) that is not literally expressed in the text, and to which seemingly disparate elements in the text—that the reader may tie together—can contribute (McCarthy, 2015; Miall & Kuiken, 2002; Vipond & Hunt, 1984). Evidence of such point driven reading (Vipond & Hunt, 1984)

can be found also in the conclusion experiences we discerned, as those experiences typically involved satisfaction about how the meaning/point a student ultimately adhered to the text was rooted in reasoned links. This satisfaction was shown in expressions of personal achievement, which indicate that students in the literature course were personally involved with construction of meaning. As such, literature education may be a stimulating environment for students to engage in explaining themselves.

Considering alternatives. Considering alternatives can be seen as an experience in which (re)construction of meaning is evaluated. These evaluative experiences can be related to refamiliarization theory, as refamiliarization may involve comparing possible meanings of the text (Fialho, 2007; Miall & Kuiken, 1995). Comparing is indeed what our participants experienced in the literature course, either in discussion with others or within themselves, for instance in evaluating an unreliable narrator's display of events. Our analysis shows that such evaluations often were not about choosing one possible meaning above other possible meanings, but about combining different possibilities, to expand meaning. Such a combinatorial stance indicates that our participants may have held transactional epistemic beliefs, which constitute the position that readers should interact with the author and the text to form a possible meaning out of manifold, as opposed to transmission beliefs, that refer to the idea that there is only one correct author's message to be reconstructed by the reader (Shraw & Bruning, 1996). Other research suggests that the former kind of beliefs may arise through readers' confrontations with the gaps and inconsistencies that are a hallmark of literary texts (Iser, 1978) and that may increase readers' "flexibility of internal models of meaning" (O'Sullivan, Davis, Billington, Gonzalez-Diaz & Corcoran, 2015). As comparing and combining meanings can be seen as an act of cognitive decoupling, which is said to be System 2's defining trait (Evans & Stanovich, 2013), this combining of meanings instead of determining the one meaning, is another indication that the literature course contributes to cultivation of inhibition of System 1-processes.

7.3 Limitations

The present study has possible limitations. One might argue that because of our decision to include students from one school only, we cannot generalize our results. We do not know whether students at other schools might report the (same) types of de-automatization and (re)construction experiences. However, our aim was to find out whether and, if so, how de-automatization and (re)construction may be experienced in literature class, not where or when they might occur. Therefore, we chose a school where we could expect to find those experiences and students of whom we could expect to have had them. As our findings were consistent across 21 participants who formed a heterogenous group, we do claim to have increased knowledge about the qualities of potential de-automatization and (re)construction experiences in the literature classroom.

Another possible limitation concerns our choice of method. As our interviews took place four to twelve weeks after the four-month period in which the cognitive processes could have been experienced, students' memory might have been colored by thoughts and experiences they had after the four months, which might hamper the validity of our findings. However, the fact that 46% of the words in all transcripts were about de-automatization and (re)construction experiences, when the participants could have talked about any experience they had, indicates that these experiences, even though recalled and interpreted in hindsight, root in actual events. It is highly unlikely that 21 different students could have constructed (as opposed to re-lived) these experiences to this extent. In addition, we did take advised precautions to counter possible pitfalls of stimulated recall that distance in time might induce: 1) We used an extensive literature portfolio as stimulus, that also contained students' written reflections on what they had learned in literature class. The interviewers read these prior to each interview, so that they could ask clarifying questions when what the interviewees recalled orally contrasted with what they had written in their portfolio. 2) The fact that we interviewed a heterogeneous sample of students makes it unlikely that the 6 types of experiences we found result from colored memories, as it is implausible that these different students' memories were all colored in the same way.

7.4 Implications for educational practice and future research

The focus of the present study was to gain insight into experiences of de-automatization and (re)construction in literature education. Our results may help literature teachers in recognizing when and how their students experience de-automatization and/or (re)construction in their lessons. However, this study does not answer the question how teachers could actively stimulate these experiences in all students. We think that the differences between the Growth and No-growth group, i.e. the virtual absence of delay experiences in the No-growth group as well as the average lower frequency of questioning and reasoning experiences in this group compared to the Growth group, provide an angle for future research. After all, once we can explain how differences between successful and less successful students come about, we gain crucial knowledge for designing pedagogical interventions to overcome these differences.

We propose two possible explanations for the quantitative group differences we found in the present study that we think are worthy to investigate in subsequent research. First, the differences between the groups might be due to differences in instructional activities. Maybe some instructional activities were carried out by students in the Growth group, but not by students in the No-growth group, which might have led to crucial learning activities not being evoked in the latter. Hence, students in the No-growth group might have had less opportunities to experience delay, questioning and reasoning in the lessons than students in the Growth group. Future research could focus on identifying crucial instructional and learning activities to help

formulate design principles for lessons aimed to foster de-automatization and (re)construction in response to literary texts.

Second, students in the No-growth group still might have had ample opportunity to experience delay, questioning and reasoning in the lessons, but might somehow not have been open to these experiences. We did encounter indications of lack of openness to experiences in the No-growth group that could be analyzed in future research. For instance, Dave (grade 10), from the No-growth group, clearly was not very open to the Questioning experience he had when reading a novel wherein the protagonist suffers from dementia:

...the sentences were very strange because he's suffering from dementia, so you get half-finished sentences. And he talks a lot about himself in third person, and at the end of the novel there are only single words. Yes, I found it very difficult to read. Q: Difficult in what way? I was frustrated by it, and bored. I could not get through it. And then you think: stuff it, I've got better things to do.

Future research into these possible differences in openness to experiences of questioning, delay and reasoning might also investigate a possible relation between such openness and the kind of goals students set for themselves (Latham & Locke, 2007). Motivation theorists commonly differentiate between performance goals and mastery goals, the difference being that the former goals are concerned with getting the job done, while the latter goals are concerned with becoming as good as possible at that job (Dweck & Leggett, 1988). Mastery goals may potentially enhance openness to experiences of delay and questioning, as these experiences may be perceived as an enrichment of the meaning making process, by students who want to become as good as possible in literary interpretation. On the other hand, students who just want to get the job done might find questioning experiences too frustrating to be open to and delay a hinderance in reaching their goal as fast as possible. Likewise, experiences of reasoning might be tailored to students with mastery goals, as these experiences are likely to tap into their motivation to come up with the best possible parts to whole-relations, while students with performance goals might find it sufficient to quickly come to a conclusion that fits the task.

Witte (2008) proposed a way that encompasses the instructional as well as the motivational angle to gradually enhance students' openness to thoughtful meaning making from literary texts in secondary education: teachers should provide their students with literary texts that connect to their students' interests and personal literary reading level. However, this developmental strategy might not be enough to motivate students to de-automatize their thinking in literature class, as students who read books that interest them and that are neither too easy nor too difficult, might still be dispositionally impeded in setting the mastery goals that might increase their openness to de-automatization and thoughtful (re)construction. Therefore, we suggest that future research should focus on which instructional and learning activities might develop secondary students' thinking dispositions in such a way that students become increasingly open to experiences of de-automatization and (re)construction.

7.5 Conclusion

We found that learning experiences in the domain of literary fiction may involve de-automatization of cognitive processes and (re)construction of meaning. This is a relevant finding because the tendency to de-automatize our thinking and to engage in (re)construction of meaning may support critical thinking and our overall cognitive well-being. As our minds are wired to favor automaticity, we may be bound to *cultivate* de-automatization and (re)construction. The present study shows that literature education potentially is a rich environment for this cultivation to occur.

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APPENDIX: INVITATION EMAIL

Dear students,

This schoolyear you have participated in two measurements, in the context of my study into literature education. On account of your answers at these measurements I would like to invite you for an interview. This interview will last about an hour, including a short period of preparation for you. The interview will be conducted by me or by [name 2nd interviewer]. You will get a gift token of 25 euro for participation.

With these interviews, I aim to gain more insight into how literature education works. I won't be asking difficult or uncomfortable questions, and you can speak freely: there are no 'right' or 'wrong' answers. Because I have to analyse the interview afterwards, I will audio-record it. Before I will analyse the interviews, all interviewees get the transcript of their interview by email, which gives you the opportunity to verify if the transcript is a true display of what you said during the interview. After your approval, the transcript will be anonymised.

Below you find the hours in which I plan to conduct the interview.

- When you are interested in participation, would you then let me know which hours you are unable to come, by replying to this mail?
- When you are interested, but you are unable to come at any of the hours below: let me know and I will see if I can find another hour.
- When you are not interested, please let me know with a reply to this mail, so I can ask one of your fellow students.

I sincerely hope you all want to participate!

Could you please let me know as soon as possible, so I can begin to make a schedule for the interviews?

Kind regards,

M. Koek