

WHAT HAPPENS WHEN STUDENTS ENGAGE IN LEARNING HOW TO REASON ABOUT DUTCH HISTORICAL LITERATURE IN A DIGITAL GAME?

A CASE STUDY OF AN UPPER SECONDARY SCHOOL CLASS- ROOM IN THE NETHERLANDS

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Abstract

L1 teachers expect quite a lot from their students when dealing with L1 literature. It is therefore important that teachers adequately equip them in developing their skills in reading, understanding, and reflecting on literature. But what happens when a digital method is used to achieve this all? As part of her PhD-research, Renate van Keulen developed a digital game to teach students how to reason about and with historical literature. Looking at the implementation of this game, this contribution tackles two main issues at hand in her class. First, we examine the effects of digitalization of literature teaching based on students' assignments and evaluations. Second, based on an ethnographic interpretive inquiry focused on the teaching of literature via this digital method, we advance some considerations on what is gained and what is lost by these students when approaching reasoning about literature at the online-offline nexus. We conclude by reflecting on the current position of L1 teaching and the implications that digitalization and game-based learning platforms may have for students' ownership of how to reason about literature.

Key words: literature teaching, reasoning about literature, digitalization, game-based learning, online-offline ethnography

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1. INTRODUCTION

Research shows that fiction has essential benefits for its readers. It increases someone's vocabulary, both in depth and breadth, as well as someone's language comprehension, but it also empowers the reader to empathize with other people (Doddell-Ferder & Tamir, 2018). As a result, both children and adults who regularly read fiction are less likely to develop prejudices (Johnson et al., 2013). The same applies to reading historical fiction, and what is more, historical fiction can also contribute to students' socio-cultural development and historical awareness (SLO, 2017; Bax & Mantingh, 2018). It thus can help students broaden their worldviews and increase their critical thinking skills (Slings, 2007).

Given its great potential, historical fiction offers interesting opportunities for motivational and meaningful L1 literature teaching. Unfortunately, these opportunities are not always exploited. This is partly due to known issues such as limited space in the curriculum (Oberon, 2016), lack of motivation among students (Verboord, 2003; Witte et al., 2008; Stokmans, 2013), and students' limited literary competence (Witte, 2008). Partly due to their lack of contextual knowledge, students find it hard to interpret historical literature. Therefore, teachers in class often opt for a lecture-like format (Oberon, 2016) in which they provide information about the historical literature discussed. Historical literature is thus taught in a different, more teacher-directed way than other literature, with less room for personal input and reflection. This seems like a missed opportunity, because active teaching methods provide better conditions for students' motivation to learn (Deci & Ryan, 2002).

To develop a didactic approach that motivates students and teaches them to reason about historical literature, Renate van Keulen conducted an educational design study in which she has developed a digital game for teaching historical Dutch literature. This game is based on the empirically founded assumption that adding game elements to the teaching-learning process, i.e., the gamification of learning, is perfectly in line with the current student generations' perceptions and expectations of and around literature, since entertainment and play are relevant elements in their school life and social life (Marzano, 2012). Moreover, effectively designed (educational) games appear to promote students' involvement, creativity, and productivity in the teaching-learning process (Johnson et al., 2014).

This contribution first deals with the educational design study as carried out by Renate van Keulen and its results for students' learning and motivation in historical literature teaching. Then, it investigates the classroom where the game was implemented as a sociocultural space in which learning how to reason about historical Dutch literature takes place at the interface between the human and the digital.

More specifically, it reports what has emerged from an interpretive ethnographic classroom case study by Massimiliano Spotti that strives to unravel what students gain and lose when learning how to reason about historical Dutch literature through this specific digital method. Finally, the main question of this contribution is answered: What happens in a regular secondary school classroom when students encounter historical literature via a digitalized teaching method with game elements?

2. DEVELOPING AND IMPLEMENTING A DIGITAL GAME FOR L1 HISTORICAL LITERATURE TEACHING

2.1 *Development of the game*

The main research question of the educational design study reported here pertained to the main elements of a digital game for historical literature teaching that motivates students and teaches them to reason about literature. Several preliminary studies were conducted to determine the design principles for the game. First, a literature study on educational games resulted in a list of game elements useful for historical literature teaching. Second, a survey of current didactical approaches in historical literature teaching provided principles to gather the game content. Based on these principles, a model was developed allowing students to reason and gain insights about literary texts and their historical as well as societal emplacement, and to reflect on themselves as readers of historical literature (van Keulen & Bax, 2021). Last, a study of the selected novel was carried out to provide the necessary information for the game's assignments. The novel chosen is *De Donkere Kamer van Damokles* (1958) by the Dutch author W. F. Hermans (translated in English by I. Rilke as *The dark room of Damocles*). Based on these preliminary studies, the design elements for the digital game were determined and applied first in a prototype of the game. This prototype was developed and evaluated in several phases. Below, we describe the final design, followed by an overview of the steps that were taken to achieve this end product.

When opening the game, students see the picture of a book on their screen. The book opens and starts with a prologue in which a video introduces students to the game, the reasoning method to be applied, and the story (*De donkere kamer van Damokles*). The prologue is then followed by four levels where students reason about the text, the historical context of the text, and the social context of the text and reflect upon themselves as readers. Each level starts with a video, presenting a part of the story. It consists of an extensive read aloud summary of the chapter at hand, supplemented by key fragments also read out aloud. Further, the video has drawings that match the story and its development. After watching the video, students must answer quiz-like questions about the story. Correct answers are rewarded with points. If students answer two-thirds of the questions correctly, they are allowed to move on to the reasoning assignment, although they can also continue answering content questions to earn extra points. Having reached the

reasoning assignment, the students go through a number of steps based on reasoning questions. They analyse a section of the novel that relates to a specific question (step 1) and express their own knowledge and ideas, followed by a first answer to the question (step 2). The students then use a non-literary source with additional information about the topic of the reasoning question to expand or adjust their answer if necessary (step 3). Finally, they write down the insights they have gained through reasoning (step 4). When analysing literary and non-literary sources, students always follow the steps 'describe', 'give meaning' and 'conclude'. Having reached step 5, students find their own four insights back on the screen. First, they are asked to look for similarities across their insights and in step 6, they answer the main question of the game: What is the truth in *The dark room of Damocles*. After this step, the game is finished. Scores are visible in the top bar and students can also click on the leaderboard to view their ranking.

The game was developed in several phases. In a first (analogue) version of the game, the reasoning model was presented in the same way as in a non-digital, teacher-led classroom setting. The students read the paper version of the book and completed several assignments based on the reasoning model. The purpose of this research phase was to find out how students reasoned with the model and whether the model needed improvement. An assessment model was developed, based on Witte's (2008) theory of literary development. The evaluation showed that the students were able to reason and gain insights. They succeeded in analyzing the literary fragments and in connecting their findings to their own knowledge and ideas. They also succeeded in analyzing the non-literary sources and used them effectively in interpreting the literary sources.

The reasoning steps helped them to provide detailed and well thought out answers. It also became clear that students showed both practical and substantive progress in reasoning in the course of the lessons. From the evaluations it turned out that students experienced the lessons as useful and that they were generally positive about the reasoning tasks. At the same time, it became clear that the reasoning model and the assignments needed several improvements, both in terms of content and formulation. For example, some reasoning steps needed to be formulated more clearly and some assignments needed additional instructions. These improvements were implemented in the second version of the design. In this second (hybrid) version, the assignments were also partly digitalized, and the story was presented through a video. The teacher showed the video to the whole class and coached the students toward the completion of the assignments. The evaluation of the second version of the design confirmed that students were able to reason with the model. Due to the improvements made in the assignments and the reasoning model, students were challenged to reason at a higher level (on average) than in the first version of the design. The evaluation of the story's digital presentation made clear that students showed no gaps in their story knowledge. In their comments, students indicated that the video presentation led to sufficient understanding. On the other hand, the evaluations showed several areas of possible improvement in the

assignments and the video presentation, mainly at a detailed level. It also turned out that students needed more instruction on the reasoning steps and an opportunity to ask for help when working on the assignments. The proposed improvements and additions have been implemented in the third version of the game.

In the third version, the game had become fully digitalised with tailor-made software. Students would now work independently on their laptops. The game was supplemented with game-based elements for learning. For example, the assignments were divided into levels. The higher the level, the more independently the students had to work. Students could also use a help button. Thanks to the improvements and additions in the third version, more students were challenged to reason at a higher level (on average) than in the second version of the game. It became clear that digitalization did not hinder the students' reasoning, rather, their results improved in each version of the lesson series. Still, the evaluations showed that students, next to a lack of interaction, experienced more monotony in the assignments in the digital versions than in the analogue version. So, to increase students' motivation, several new game elements were added in the fourth version: quiz questions, a reward system, and an interaction feature. In the next section we discuss student motivation and learning in more detail.

2.2 Results in reasoning and motivation

A total of 175 fifth grade *VWO* students (*voorbereidend wetenschappelijk onderwijs*, literally: preparatory academic education) at Van Maerlantlyceum in the city of Eindhoven participated in the study. In the first research phase (school year 2019-2020) a class of 32 students participated (8 girls, 24 boys), in the second research phase (2020-2021) two classes of in total 54 students (24 girls, 30 boys), and in the third research phase (2021-2022) three classes of in total 89 students (41 girls, 48 boys). Most of the students were 16 or 17 years old. In all classes, the students were required to participate as the game was part of their regular curriculum. Participating in the study, however, was not made compulsory.

The results of the students' assignments and their evaluations of the game were analysed to find out how the game worked for these students, both in terms of learning outcomes and motivational aspects. The study showed that students with different levels of literary competence can adequately use the proposed method to reason about complex questions on a historical literary text. It also showed that the method helps students to precisely formulate their findings. In each research phase, the students' assignments and evaluations were analyzed in the same way. The outcomes with respect to learning how to reason show the same pattern in each phase. They even show a slight improvement in the last, fully digitalized version, which can also be explained by certain improvements made to the design. Student motivation, however, shows a different pattern (see Table 1).

In the analogue version, the students' autonomous motivation was higher than their regulated motivation. Autonomous motivation, according to Deci and Ryan

(2000), represents a combination of intrinsic motivation (*I like it*) and identified motivation (*It is important for me to learn this*). Regulated motivation represents a combination of external motivation (*I don't like it, but I do it because I have to*) and introjected motivation (*I get a bad feeling when I don't perform well*). The hybrid version and the digital version show a similar pattern, although the digital version has fewer comments about fear of failure, probably due to the addition of a help button to the game. It is also notable that in the hybrid and digital versions, more students show intrinsic motivation than in the analogue version. However, less students called these versions 'useful' compared to the analogue version, ultimately resulting in lower autonomous motivation (intrinsic and identified motivation). Moreover, students who participated in both the studies of the hybrid and digital versions showed more external motivation in their evaluations than students who participated in the study of the analogue version. Another notable finding is that students who participated in the study of the hybrid and digital versions commented more often that they considered the system of reasoning about literature as 'repetitive' and 'much of the same'.

Table 1. Types of motivation as reflected in students' comments

Version of the game	Autonomous motivation	Regulated motivation
Analogue version	75%	25%
Hybrid version	60%	40%
Digital version	61%	39%

The above findings first lead to the conclusion that reasoning about literature using a systematic stepwise approach can help students to connect literary texts, their own knowledge, ideas and insights, and any provided literary or non-literary sources to formulate new insights or argued evaluations (see also van Keulen & Bax, 2021). They also show that digitally teaching such reasoning method is possible. Whether the approach leads to creating motivation, however, is less obvious. Despite improvements to the game and the highly rated videos used in it, students who participated in the hybrid and digital versions gave fewer comments that indicate autonomous motivation than students who participated in the analogue version. This makes clear that it takes more to design a digital method that matches the quality of a 'normal' well-thought-out literature lesson taught by an experienced teacher, than just presenting it digitally. Therefore, in the fourth and final version (that at the time of writing has not yet been tested), several other game elements were added: quiz questions about the story that allow students to earn points, a reward system with a dashboard showing the scores, and a help feature that allows students to ask each other questions and earn points for correctly answering peer questions (see van Keulen, 2024).

3. STUDENTS LEARNING TO REASON ABOUT HISTORICAL LITERATURE VIA A DIGITAL GAME

Inspired by ethnographic interpretive work in regular school classrooms as loci of meaning making (Reid, 2000; Kress et al. 2005), set up within the IMEN tradition, and combining the notion of the community of practice (Lave & Wenger, 1991) with the notion of the online-offline nexus (Spotti & Blommaert, 2023), this section presents the ethnographic insights gained from observations of what happened in Renate's regular classroom when her students were confronted with a digital game meant to have them learning how to reason about Dutch historical literature.

3.1 Toward an ethnography of classroom doings at the online-offline nexus

Although inspired by the programmatic endeavour on multimodality in textbooks, focusing on gains and losses in new forms of texts, knowledge, and learning, initiated by Kress (2005) and further developed by Kress and Bezemer (2015), this ethnographic case study does not wish to engage (solely) in a multimodal analysis of a new didactic method rendered in digital format with the inclusion of game elements. In so doing, such a study would be limited to finding how different modes and means of communication either grant gains or cause losses for learning to reason about Dutch historical literature. Rather, albeit in a tentative manner, this study intends to take the Kressian endeavour a step further and in so doing tries to understand, through the means of classroom observations, fieldnotes, and a focus group discussion, how Renate's students perceive and experience the transition from the analogical to the digital when learning how to reason about historical literature.

Following Hine's (2013) realising that, in her ethnographic work in classrooms, the digitalized online world of students could no longer be ignored, this study firmly subscribes to understanding students' online doings as acts that cannot and should not be regarded as separate, ancillary, or even worse, inferior to their offline daily classroom doings. Rather, this case study of L1 teaching and learning on how to reason about historical literature through a software-based digital learning method should be seen as part of an emergent ethnographic endeavour that understands students as part of a post-digital world where their doings are inescapably rooted in an online-offline nexus (see also Blitvich, 2022). When your field—in this case the teaching-learning process in the classroom—'goes online' (see also Blommaert & Dong, 2019), as an ethnographer, you must follow and adapt your methodological toolkit to make it fit novel, unexpected circumstances brought in by the digital.

In this case study then, doing ethnography has two facets. One facet has to do with ethnography in the classical sense, that is, establishing rapport with teachers and students, annotating their doings in the form of detailed fieldnotes and transcribing their dialogues thus rendering them into yet another kind of text from which potential key incidents can be constructed (Kroon & Sturm, 2007). The other facet of doing ethnography here also means, as Blommaert (2018) suggests in his late work

on sociation at the online-offline nexus, becoming engaged afresh with the notion of context and context collapse in online-offline interactions (see also Szabla & Blommaert, 2018). As it were, paraphrasing Geertz (1973) the present case study is therefore trying to construct a reading of a manuscript, that is, a manuscript where students are engaged in reading and understanding yet another manuscript, i.e. *The dark room of Damocles*. As a classical, curricular text, this manuscript results to be far from the students' lived experiences. As while approaching its contents, they are asked to construct a new space where ellipses, incoherences, and sentiments of either liking or disliking and understanding, or lack thereof, may come to life. These elements come to be, neither in numbers recapped in graphs nor in scores in final examination sheets. Rather, they come to emerge in the collected snapshots of software-based, laptop-oriented classroom behaviour that, in principle, should lead these students to learn how to develop reasoning skills about historical literature. Before dwelling on the insights gained through my interpretive ethnographic gaze in Renate's classroom, I first briefly introduce the socio-cultural setting of the case study and present some meta-ethnographic considerations.

3.2 The sociocultural setting of the case study: advancing some meta-ethnographic considerations

Van Maerlantlyceum houses the top segment of the Dutch secondary education population as these students, by the end of their secondary schooling trajectory, are by default entitled to access the Dutch higher education system, i.e., universities and universities of applied sciences. The driving mission of the school is in its slogan reporting that all students should be stimulated to get the best out of themselves. As for its subject teachers, the school, in its information for parents and prospective students, reports that these are all highly qualified professionals who deliver excellent education to their students in a safe and respectful environment. More specifically, the school prides itself on giving its students the possibility to follow original optional subjects and extra-curricular activities that aim at developing both the creativity and personality and the societal awareness of its students. It is for these reasons that the school opts for a broad developmental approach where students are the key figures in their development process. In the school year 2021-2022, when this ethnographic case study has taken place, the school counted approximately 1,200 students and 135 teaching and non-teaching professionals.

Between the end of January 2022 and mid-March 2022, Renate's classroom is a fifth grade *VWO* classroom, containing mostly native Dutch students. Only very few students in this class were reported to have more than one language at home as either both or at least one of their parents were expats living in the high-tech Eindhoven area. According to Renate, these are all students who obtain adequate results for their curricular subjects, yet again two male students appear to be less engaged, as their homework and preparation for classes often leaves much to be desired. Although still in pandemic times, facemasks were no longer compulsory when in class

and social distancing had already been abolished by the Dutch government. Each student was required to come to class with a laptop so to engage with the digital learning method dealing with *The Dark room of Damocles* that, as already reported, was in its third phase of development and implementation. In what follows two data sets are presented and analysed. The first is taken straight from the field notes I wrote in my notebook in Renate's class. The second consists of the discourse practices of students who took part in one focus group discussion at the end of the fieldwork period which had as a purpose to gather these students' retrospective insights concerning the software and its game elements, the tasks they were asked to fulfil as well as the possible gains and/or losses that they might have experienced in learning how to reason about literature through a digital game compared to a teacher guiding them in whole class teaching through a novel in tangible book format.

Some meta-ethnographic considerations should be drawn here before presenting the ethnographic vignettes (Miles & Huberman 1994, 81) singled out from the field notes as possible "keys", or at least, as salient episodes that unleash the theoretical load behind the software-based game and the learning how to reason about literature of Renate's students. My first experience gathered during the fieldwork was that, once stepped into the class, I soon came to realise that there were limited chances of observing any forms of classical interactions and that I could solely 'lurk' behind students' backs as they were engaged with their laptop screens and the software that led them through the lesson. Further, what stood out from my first ethnographic steps in Renate's classroom was that the teacher had become a figure only apt to cater for students' technical support although she was still the one that, in the end, would assess these students' end products. Last, while the 'strange' of the cultural ecology of this classroom became 'familiar', it also became clear that the classical elements of education an ethnographer bumps into, such as verbal interactions among (groups of) students, were simply not there for me to observe, describe and analyse. Anthropologists have been discussing the poetics and the ethics bound to representing the other in ethnography (or, as for this case in point, the lack thereof) for long. They, however, have not come up with concrete suggestions for what to do when (verbal) interaction is missing, as in Renate's classroom. Rather, this key feature of my fieldwork echoes the point made by Pratt (1986) when dealing with the question whether informants in ethnographic research should always be scripted and whether they should always be rendered in terms of what publication establishments, e.g. journals, expect ethnographers to do.

Rather, fuelled by advances in technology and in the ethnography of 'spatializing culture' (see Low, 2019), ethnographers have come to realise that they need to take an interest in novel forms of representations that pay justice to less tangible concepts like silence, noise and smell as poignant elements of their fieldwork. In Renate's classroom, this turned out to be for me a growth of ethnographic consciousness. In fact, it was the 'typing noise' of these students' keyboards that made me aware of the unconventionality of interactions taking place in her classroom and it is the mundane action of typing and backspacing that had me think of a way to use the

concept of rhythm as a way into these students' life worlds (see also Blackledge & Creese, 2021 dealing with their data through the key to ethnographic drama). What I present, therefore, unlike most of the past classroom ethnographies I have been engaged with (Spotti, 2006; 2007; 2011; 2013), are not classroom-based transcripts of interactions singled out from large audio and videotaped interactional scripts. Instead, following the trend set by the emergent scholarly genre of ethnographic play-writing (see Schaaf, 2022, 208), in this ethnographic case study I was compelled by the field to elect, as sensitizing concepts, elements like 'noise' and 'rhythm' that were totally foreign to me till then in classroom ethnographic terms. Such an approach to classroom data still focuses on interactions, this time non-verbal ones, that echo the features present in a play script meant to present the reader with what the ethnographer has been struck with. It is the concept of classroom 'rhythm' and the regularity with which mundane mechanistic activities are performed, like that of someone's typing and backspacing, that have emerged as central to gaining insight in the students' engagement in learning to understand historical Dutch literature via a game-based software.

The fieldnotes that follow from here were taken in a mixture of English and Dutch. Being neither English nor Dutch my native language, the reader might notice 'non-native' forms of expressions that creep in and for which, I apologise. Still, for the purpose of ethnographic truthfulness, I have opted for not altering them and report them as they were jotted down at the time of classroom observations.

3.3 Students' responses to software-based learning for understanding Dutch historical literature

It is February 10, 2022, and Renate's class, that I am observing for the second time, has Lesson 3 planned for today. As I have already been introduced to the students as somebody interested in how they learn how to reason about Dutch literature, there is not much attention being paid to me while I am sitting with my notebook and a pen in my hand at the back of the classroom. By now, it is 10:03 in the morning and students start flocking in as usual. They sit at their places, boys on the right and girls on the left, take their laptops out of their bags, open them, turn them on and prepare their Bluetooth-connected earbuds or plug-in earphones for what comes next. Renate sets the whole class to work by stating '*jullie weten wat jullie moeten doen*' (you know what you must do; MS) and her students move on with what appears to be a 'common drill'. All students but two manage to log in, those who do not are one student who has forgotten his laptop at home and will have to work out how to carry on via his phone and one student who is truly unable to connect to the school network. Renate stays at her desk observing the students opening their laptops and logging in, students put their earbuds on and start the software unit that matches Lesson 3. At this stage in my fieldnotes, I report the following:

'I am lost, they do not talk and I honestly feel awkward to lurk right behind them looking at their screens behind their backs, I guess this will be the only way to gather some data though.' (MS fieldnotes 10022022:10:06)

'Still sitting at my chair in the corner of the classroom, so to play the 'Malinowskian fly on the wall', I glance at their screens, I mean at the screens of those students that are in my immediate reach them being seated in the last rows. On my left there are only girls, on my right, there are only boys.' (MS fieldnotes 10022022:10:06)

After these few introductory remarks, I note:

'It is the mode next to the medium as played by the software that is driving these students within the book narrative. Can they fast-forward? Can they go back a little? Why do they go back? Why do they fast forward? Out of boredom? How stiff is the gauging of students' reasoning within the scheme provided by this software?' (MS fieldnotes 10022022:10:06)

For then noting:

'As a matter of fact, the students do not interact with the page, rather they are led on that page by the medium first toward pictures then toward a text that is read to them by an external narrator's voice which also plays the characters' voices, I guess. *Dat zal allemaal wel maar het lijkt me dat* [That might all be true, but I guess that] boredom creeps in by some. Students' needs may be different, and students' uptake of the book may also be different, but the software gauges their gaze in the same way toward the same things from bottom to top to the question.' (MS fieldnotes 10022022:10:14)

As I could observe, both the boys in the last row as well as the girls in the same row right in front of me were by then moving further into the software, and while the software-based narration has been unfolding, I noted the following:

'Both rows of students have started working at the same part of the software, as far as I can lurk. A unit that asks them a question about the role of the main character in the book. This whole thing is supported by a video which takes them through the most salient bits of the chapter(s) of the book they ought to know so to answer the question. It is interesting to see how absorbed they are in their doings, listening with their faces between their hands so to prevent their heads to fall off their necks most probably. Others with a good posture instead. Then one of the boys, the one at the second desk from the right in the row just in front of me, keeps on rewinding the video most possibly focusing on what has been said as he had already reached the question of whether the main character is a friend or a foe. Interesting to see how they little by little all operate, back and forth, back and forth in this video until they come to the question and then they stop, ponder, think and then again back and forth, back and forth till they go right on top of the screen for help.' (MS fieldnotes 10022022:10:13)

From there I added:

'As a matter of fact, the students don't interact with the page, rather, they are led by the medium first via the means of zooming in toward meaningful pictures/illustrations on then toward a piece of text which is read to them by the voice in the background.' (MS fieldnotes 10022022:10:14)

Further, during the unfolding of these students' doings with the software, I have observed them coming to a moment of doubt, as I noted down:

De meiden in de laatste rij zitten allemaal op dezelfde 'pagina' [The girls in the last row are all on the same 'page'] and now they switch forward and then backwards again, or better it is the software that dictates the trajectory of the narration that they should follow and that switches toward the zoomed in picture on the screen.' (MS fieldnotes 10022022:10:19)

Consequently, 'the girls in the last row' as I name them above, started searching for help without interacting with Renate or among themselves, and I note the following:

'There is a help button they can press if they feel they are stuck, the help button leads them to the right part of the video that they should focus on, there to back and forth to the right moment that might feed them the clue. I see a couple of boys in front of me using it, though they had already started lingering on their keyboards, I guess they started to formulate an answer. But this is a task-based thing not a learning how to reason if someone tells me what I should be reasoning.' (S fieldnotes 10022022:10:19)

'It [the help button; MS] gives them clear hints and the girls I am observing seem to be making use of it. They are all channelled into a one stream of thought—/sturm und drang reverse. Their glance is determined by the software, as the help button seems to work, in that after the hint it has them to move toward the question being asked and then they start typing.' (MS fieldnotes 10022022:10:19)

Although there was neither verbal nor physical interaction among the students and I was not able to lurk as much as I would have liked to at their screens' doings, one thing had been left for me to pay attention to and that was the sound that was pervading the classroom, at which point I noted:

'Voor zover dat ik kan zien is nu (bijna?) iedereen op die fragment [As far as I can see (almost?) everyone is by now on that specific fragment] working fulfilling their task(s).' (MS fieldnotes 10022022:10:24)

This note was followed by some reflections on the sounds that I could hear in the classroom:

'The typing shows, at least, immediately, that that fragment has been tackled by many in class. The sound of typing on keyboards is what fills the air of this class now. Typing at different speeds which may indicate that they got the hang of it, *of juist niet* [or maybe not]' (MS fieldnotes 10022022:10:24)

I then noted the following:

'Interestingly enough, little by little, they all got typing, by now the sound of the keyboards is rather homogeneous and I can tell they all got on with it and got going. They type, they back space and they type again, pretty much all at the same pace. It is a nice sound they are all at pace, now.' (MS fieldnotes 10022022:10:24)

Observations in Renate's class continued beyond this second lesson, and it was on 25 February, after a week when the class had to be dismissed due to a new COVID-19 outbreak, that I had started observing these students' doings again. This time the main question they had to tackle via the software-based game, read as follows: "*Wat is de waarheid in 'De Donkere Kamer van Damokles'?* [What is the truth in 'The dark

room of Damocles'?]. Once again, the lesson unfolded following the modality and the patterns of the lessons I had previously observed and, having witnessed Renate's students at the back once again following the line of reasoning set up by the software via their laptop screens, I noted the following:

'Er zit wel wat redelijk typen geluid weer in de lucht, tik tik en dan pause en dan weer tik tik, in de hele klas aan beide kanten, links en rechts uberhaupt rechts bij de derde rij van jongens, die zijn allemaal lekker vlot bezig, misschien is wel iedereen bezig voor zichzelf maar ze spieken niet, iedereen is met zijn eigen scherm bezig.' [*There's some reasonable typing sound in the air again, tap tap and then pause and then tap tap again, in the whole class on both sides, left and right and especially right at the third row of boys, they're all busy, nice and smooth, maybe one is busy for just they don't cheat, everyone is busy with their own screen*] (MS fieldnotes 25022022:10:20)

The fieldnotes I wrote down in both observed occasions made me think of a play script where the silent characters of the play all move toward a homogeneous *innuendo* embodied by the action of typing. Students' learning practices could not be observed in any other way than via the hearing of the sounds of the classroom and, as presented in the last fieldnotes reported above, I can conclude that the most salient element that I have witnessed as an emergent component of all software-based learning activities, had to do with emergent rhythm—more specifically, the homogeneous rhythm that the keys of these students' keyboards made during the action of typing their answers to the questions prompted by the software. The concept of rhythm, although but a hunch here, helped me build a bridge with the 'ethnographic drama' played out in their fieldwork by Blackledge and Creese (2021) who noticed how a particular rhythm develops in the practice and the non-game related actions of a superdiverse multilingual volleyball team. Following their use of rhythm and noise as analytical lenses, here too rhythm has emerged as a key feature of my tentative reconstruction of classroom doings embodied in the sound of a mundane regular classroom activity, that of typing. Rhythm thus resulted in a form of tacit interaction, i.e. not instanced via a verbal or written language, yet sounded out as a collective embodiment of students being at pace with the software-based learning task. It is yet to be seen though, what this homogeneous rhythm meant in these students' having 'to learn how to reason about Dutch historical literature'. It is for this reason that I have decided to further the present study with a focus group discussion with four of the students I had the chance to observe.

3.4 Students' insights in working with the digital game

While the observations carried out in class have yielded some insight into the students' doings, I was also interested in what their thoughts were about the software as well as about the way in which they were approaching to learning how to reason about Dutch historical literature. Students were asked by their teacher whether they would like to participate in a focus group discussion. To span across reading behaviours, three students were selected who, according to their teacher, respectively

have a large, medium, and small number of books being read in a year—the latter of them mostly focusing on informative rather than literary texts. The insight gained from Marika, also named the ‘reading junkie’ by her fellow students as she devours no less than 32 books a year, was rather telling in that she focused on the videoclips students get to watch preparing them for understanding the unit. As she states:

I thought those video clips, you know (...) you get to see a video clip you know, where you get information and that was a rather fine thing to do and consequently you get to answer the questions. The questions are well different from those you would get when you read a book, here you go much deeper into it.

For then adding:

Normally when you read a book, you get the facts, you do not get to think about what is the truth behind it.

In the same discussion Piet, who was the one with the fewer books read in a year, added:

I thought it was difficult to answer the question on the truth, I mean what is then the Damokles Dark Room, what does it stand for? I still do not know.

These insights were completed by Danielle who, as she defined herself, is but an ‘average reader’ compared to Marika, as she reads but 12 books a year mostly thrillers and science fiction. Reflecting on the questions asked about the book she states:

I also thought it was a rather vague question, that of the truth I mean. But if you follow the reasoning steps then you get it. I can extrapolate what has really happened.

For then concluding:

But I would not describe it as reading, given that it does not follow the thoughts of the author but more the thoughts of who actually set up the film and this question.

The above quotes may serve here as a valid way in to gaining insight into the question of whether these students either learn how to reason about literature or whether they are following a pre-conceived pathway that has them to finalise a task. The fact that they report their experience not to be like reading as well as the fact that they report that it is a matter of following reasoning steps then, might hint toward a mechanistic view of learning that rather than developing understanding asks them to fulfil yet another task. In what follows, albeit in a rather tentative way, we will try to formulate some conclusions based on what could be observed while in class and what was gathered from these students’ views.

4. CONCLUSIONS

The conclusion that can be articulated here—albeit tentatively—is twofold. On the one hand, it summarizes the gains and losses perceived from the classroom’s observations as well as from Renate’s students’ insights. On the other hand, and most poignantly so, it wishes to delve into a core point of what this L1 class has become

and whether this classroom has turned into yet another platform where the lives of students at the online-offline nexus unfold in a neo-liberal inspired form of education that makes them follow a pre-given software dictated pathway, a thing we are inclined to believe even though the available body of ethnographic data can only serve here the bare purpose of corroborating this view rather than confirming it.

By gains, we could count, first and foremost, the independence of the approach from a class teacher and the fact that the software program can also run in distance learning and during social distancing. Second, as it emerged from the field notes, the help button lends the opportunity to choose different resources and the ability to receive hints that can stimulate students' pace of handling a task. Third, the digital method of learning to reason can be taught in steps that are independent of the motivation, desire, fatigue, etc. of both teachers and students and it is, in principle, not bound by time, making it suitable for individualization of education, i.e., adaptable to the characteristics, the skills, and the literary competence of individual students without a whole class uniform approach that all have to follow. Fourth, as it emerged from the classroom observation notes, the class 'rhythm' is also a form of interaction that gives hints of the 'script at play' in this learning environment. The nice thing about this is that this human-machine interaction is a far-reaching form of communication that can be interpreted as a demonstration of learning and well-being in class as both students and the teacher can hear it and thus deduce that they are at pace as they listen in to one another.

By losses, instead, we can count in the absence of a creative, unpredictable, challenging teacher-student interaction with a teacher who can trigger reactions from students asking them to clarify the points that they are making in their exercises, albeit with a limited span of attention that can be dedicated to each student (see Jackson, 1999). Second, the lack of real verbal interaction between students (learning together but separated from each other by their screens) and between student and teacher. The importance of the (classroom) teaching-learning conversation on the one hand and the individual approach to students with problems on the other should not be underestimated. Third, to use an example from a totally different field in L1 education, an important critique of the introduction of transformational-generative grammar in education in the 1970s was that it would lead to what was then called 'instructionalization' and thus 'reification' of education processes; i.e. it was no longer the content of language and language use that was central, but only linguistic structure—not as a subject of discourse, but merely as a perfectly drawn tree diagram à la Chomsky (cf. Hamburger Autorenkollektiv, 1975). A similar risk seems to exist here with the digitization of literature teaching. The proper fulfilment of the assignments given by the digital game replaces 'offline' reading and 'offline' literature comprehension—even though the didactics used in the game are explicitly aimed at learning to reason about literature. The formulation of partial insights and a final insight as requested by the program, even when things go well—and it does, according to the outcomes as reported in section 2.2—could then look very much

like the perfect tree diagrams that children were back then asked to draw representing complex sentences.

Against the insight gathered from the field, we believe that some final considerations about what the L1 classroom has become are in place here. Starting with the concept of community of practice and with the seminal work of Lave and Wenger (1991), the L1 learning we have witnessed taking place here does carry with itself connotations of belonging and close-knit personal ties among people that do not always fit regular either classrooms, workplaces, or other sites of human sociation. Mostly the acts of sociation that are part and parcel of a community of practice take place offline. While Wenger, McDermott and Snyder (2002) have been carefully trying to outline what a community of practice also is by focusing on what falls out of this definition, still the concept appears to be yet another label for a group of people. Looking at the classroom at hand instead, where students do know one another but where students—as can be read in the field notes—do not verbally interact with one another as they are solely engaged with the digital game and with their laptops, the question is whether this is still *stricto sensu* a community of practice. What if some students are fully engaged with reading the printed version of this book while others are fully engaged with the software-based narration, and others again struggle or even ‘play the game’ of being interested in this specific piece of historical literature exclusively because they move forward in the narration so ‘to get the job done’ of passing the tasks and the questions assigned by the software? Does the above learning environment still qualify as a community of practice then? Rather, what could be at stake here, is that these learning-how-to-reason interactions among software, students, and their laptops unfold in an online-offline nexus, where the analyst should be tackling the concept of space rather than the concept of belonging thus avoiding the labelling of these students as either well or ill-fitting the membership of a given community. It is for this reason that, on the basis of the observed and reported classroom observations, the data show that this classroom should be understood as a ‘semiotic social space’ (Gee 2005, 216) coming into being via the laptops and the encounter of each student, yes even the unorganized one, with the software and that is it there that the semiotic social space comes to be a place of meaning making.

The educational design study, in which the digital game on *The dark room of Damocles* was developed, implemented, and evaluated, had several positive outcomes. These include the finding that the stepwise method for reasoning about historical literature could easily be employed by students and lead to an improvement of their literary reasoning. At the same time, however, it also became clear that employing a digital game did not necessarily lead to a substantial improvement of the students’ motivation for engaging with historical literature. An echo of the latter finding was found in the results of the ethnographic case study.

From a combination of the educational design study findings and the ethnographic insights gathered in this study as well as the reflective views that the students have authored during the focus group discussion on how they approach software-based learning so to reason about historical literature, we can conclude that

L1 education, and therefore also teaching historical literature needs to rethink itself. L1 as a subject, either in the teaching of L1 as a language or in teaching the literature that comes along with this L1 has its roots in modernity. That is, by the end of the nineteenth century mass schooling became the norm and the primacy of written language combined with a classical understanding of literacy as well as the construction of a canon for national literature became key to the nation-state's own cultural building. Yet again, that time has passed and maybe there should be a wake-up call for L1 as a subject. This wake-up call includes the raising of awareness that present-day students have their daily doings embedded in platformed based digital environments and that a further platformisation, this time of their learning doings versus something that might do without the mediation of a platform, might be detrimental for their interaction abilities, for their reading skills and their capacity of expression.

Ultimately, there might be a need, thus far unnoticed, for L1 as a subject to develop new disciplinary optics rather than adding yet another platform environment to the already complex, global, post-digital lives of present-day secondary school students.

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