



Digital Assessment for Learning informed by Data
to motivate and Incentivise Students



DALDIS

DENMARK CASE STUDY REPORT

Digital Assessment for Learning
informed by Data to motivate
and incentivise students

2019-1-IE01-KA201-051567



Executive Summary

Initially in Denmark, the DALDIS project focused on AFL for English as a foreign language. However due to significant material being available in the Aarhus Kommune for EFL from traditional publishers there was not much demand for the material produced among teachers. The DALDIS Danish project therefore switched its focus to the History curriculum where commercially produced products are less readily available. Resources were produced to support six areas of the curriculum covering the following topics:

- **Ancient Times**
- **The Roman Empire and Julius Caesar,**
- **The Viking Age**
- **The Renaissance,**
- **The Coup d'État in 1660,**
- **The Age of Enlightenment.**

Students from 5th-7th grade level were the target group and History teachers were involved in developing their courses for the DALDIS/JC Quest programme.

Two schools participated in the project; both are located in the southern part of Aarhus Municipality (Maarslet Skole and Tranbjerg Skole). Five teachers were involved, teaching seven classes with approximately 150 to 170 students.

Teachers used the platform for pre-testing and post-testing to get the results from the students and, in keeping with core principles of Assessment for Learning (AfL), to adjust their teaching in response to the information gathered. When each unit was finished, students were assessed using DALDIS/JCQuest so that both teachers and students had clarity about what was learned.

The participating teachers perceived the DALDIS/JCQuest teacher platform as easy and manageable. In particular, they valued the opportunity to review and test their own materials while producing the resources. This involvement in the design and development process made their teaching more personal and targeted to individual classes. The training courses provided by the DALDIS project assisted teachers in how to prepare the DALDIS history resources to support assessment for learning. The majority of teachers (71%) viewed the students' usage of DALDIS/JC Quest as positive, and 51% reported having a better insight into students' learning. The majority (71%) also declared they would like to use the platform again.

The students experienced DALDIS as a helpful teaching tool and experienced general academic progress in using DALDIS/JCQuest. Almost all (92%) students used DALDIS/JCQuest in History, and most (75%) experienced positive academic progress. In addition, 72% reported that they would like to use DALDIS/JCQuest again.

However, the implementation of DALDIS in Denmark was impeded by two major obstacles. The first of these relates to the proprietary nature of the Unilogin system which is the national online system in operation in Danish schools. This was incompatible with the DALDIS /JCQuest Google supported login system. Despite numerous offers by the project's technical partner, EdTech Ventures to meet with the Unilogin operator to resolve this, this did not happen, partly due to the Covid disruption in schools at that time and other priorities related to this. This difficulty was further compounded by a decision by the Danish Protection Agency in 2022 to put an embargo on Google workspace and similar Microsoft platforms in schools, effectively meaning that Danish students and teachers could no longer use their personal Google or Microsoft Accounts to log on to online portals like Daldis/JCQuest. Nonetheless 150 users trialled both the History and early EFL resources in Denmark and as the case study reports shows experience with the history materials was positive with the use of high quality video resources an additional bonus.



DALDIS - JC Quest

DALDIS Project - Denmark

By Morten Bagger
October 2022

1. Introduction

It was agreed between the project's partners and the consortium that the Danish part of the DALDIS project should deal with the practical use of JC Quest in the subject English in the Danish primary school.

Memocosult had made agreements with school management at individual schools in Rebild Municipality and Aarhus Municipality respectively.

Memoconsult prepared a total of 12 different educational materials focused on English grammar in JC Quest.

2. The beginning

Memoconsult tested the 12 prepared assignments for three teachers, a 7th grade class a 5th grade class and a 6th grade class in Aarhus Municipality and one teacher (taught at 8th grade) at Arden Skole was presented with the tasks - as well as a review of the JC Quest program as a whole.

Feedback:

- a) The feedback from both teachers and students was that JC Quest/DALDIS reminded of already widespread English materials in the Danish school system, and the educational approach to the subject of English in Denmark is much more focused on conversations and dialogue, and thereby the JC Quest/DALDIS program is not necessarily a useful material in the English teaching in Denmark..
- b) Likewise, the students did not think Memoconsult's design of assignments was suitable for mobile phone use compared with use of PC or Chromebooks.

3. Evaluation A:

In consultation with the management of the DALDIS project, Memoconsult chose to do the following instead, on the basis of the test persons' feedback:

1. Focus on the subject of History instead of the subject of English.
2. The new materials are based on the following time periods:
 - Ancient times/Roman Empire/Julius Caesar
 - The Viking Age

-
- The Renaissance
 - The coup d'état in 1660
 - The Age of Enlightenment
3. The material has students from 5th-7th. grade level as target group.
 4. History teachers can be involved in developing their own courses in the JC Quest programme.

4. DALDIS - JC Quest - History

Memoconsult prepared a total of 6 different educational materials focused on Ancient times/Roman Empire/Julius Caesar, The Viking Age , The Renaissance , The coup d'état in 1660 and The Age of Enlightenment.

It was agreed between Memoconsult and the DALDIS project's management at a meeting on the 29th of June 2022 that teachers and 5th-7th graders respectively Rebild Municipality and schools in the southern part of Aarhus Municipality were to test and develop the above materials for the subject history.

Change in objectives

The object for this part of the project was agreed by Memoconsult and the DALDIS Project management were:

- 4 schools are involved in the project in two different municipalities..
- Between 5-10 teachers are involved in the project.
- About 12-15 classes (approx: 300-350 students) should be part of the testing and development of DALDIS History.

The objectives became a reality based on the already developed cooperation between history teachers in 3 schools in the southern part of Aarhus Municipality (Solbjerg School, Tranbjerg School and Maarslet School) and 1 school in Rebild Municipality.

The above had a time frame between start June 2022 to October 1st 2022 There was a particular focus on collaboration with familiar stakeholders from August 1st- August 5th, as this period is "teacher preparation week", where there are typically presentations etc. at the individual schools in Denmark.

The actual usage of DALDIS History

Due to external circumstances (See section: "Evaluation B"), the following is the status in October 2022 of the above objectives:

- 2 schools have been involved in the project - Both located in the southern part of Aarhus Municipality (Maarslet Skole and Tranbjerg Skole)
- 5 Teachers has been involved in the project
- 7 different classes (5th-7th grade) about 150-170 students have been part of the testing and development if DALDIS History,

There meetings have been held for teachers:

- 2 online by Google Meet (**March 17th 2022** for teachers and school management at Arden Skole)
- 1 "Face-to-face" meeting (**August 3rd 2022** was held at Maarslet School)

A total of 8 teachers and a school leader have attended the above meetings.

5. Educational usage

In collaboration with the aforementioned participating teachers for the meeting on August 3rd 2022, Memoconsult chose to use the DALDIS history program as "Before and post knowledge" by making a pre-testing and post-testing with use of JC Quest.

Thereby, the program was used before the students were presented with the upcoming course in, for example, Roman Empire/Julius Caesar.

Teachers got the results from the students, and could subsequently target the students' answers for the upcoming teaching.

When the given course is finished, the students must take the DALDIS History assignments again, where both teachers and students can clarify what they have learned by attending the classes.

6. Evaluation B

Since the students could not log into JC Quest via their Google - or Microsoft account, teachers simply shared the link to the single JC Quest assignment via Google Classroom or Momo (Aarhus municipality's learning platform). When the students had completed the answers, they took a picture of the result summary with their mobile phone - shared this picture with the teacher. This aspect gave the teachers an overview of the students' results without these being logged into JC Quest - It worked flawlessly.

Both teachers and students were, in their own way, satisfied with the use of JC Quest history.

The students:

1. All classes/(99 of approx. 150 students) gave the feedback that the different task types, both with time frame, video and audio clip, made the questions/subject more present.
2. Likewise, the students experienced that they had learned the given academic objectives better when they made the assignments at the end (74,5% of all student experienced positive academic progress)
3. The students believed the program was useful and all classes said they experienced JC Quest as a natural part of the general teaching of history (72,1% of all students would like to use DALDIS JC Quest again)
4. The students like doing the JC Quest tasks on a computer/Chromebook rather than using a mobile phone.

The teachers:

5. The teachers experienced JC Quest as a good educational program which supported their history lessons.
6. The participating teachers expressed that they quickly got an overview of the students knowledge of the upcoming course, and the teachers could therefore better target the teaching towards the subjects etc. which the students had no or less knowledge of - The teaching of history became more targeted, as the teachers did not experience the same "educational waste of time", because the teacher had a data-based overview of the students' academic point of view.

-
7. The teachers also expressed that by finishing the course with the same JC Quest gave them professional peace of mind, as they could see and document the students' academic progression in the given history courses - this is not necessarily always possible to clarify in a "normal" history lesson. (57,1% of all teachers experienced a better overview in the students learning when they used DALDIS JC Quest)
 8. The students' average correctness percentage in the answers increased from between 35%-45% when the teachers compared the results from the JC Quest pre-test with the JC Quest post-test.
 9. Three teachers from Tranbjerg and Maarslet School would like to make their own material in DALDIS JC Quest. These teachers are mentioned in the list below.
 10. These teachers have not had time yet to make their own material in DALDIS JC Quest but they have put it in their "teaching schedule for the school year 2022/2023 - this means that they are going to use JC Quest in December 2022 or January 2023.

The following has had an impact on DALDIS Denmark has had a smaller spread than the stated objectives indicate:

11. Morten Bagger, founder of Memoconsult, has been on sick leave due to developing a chronic illness after being infected by Covid 19.
12. Danish students and teachers can not use their Google or Microsoft account to log on to online portals - In Denmark, students can be connected to Unilogin (a national online "logon system") The Publishers or the providers must pay per user to become part of the Unilogin system.
13. Aarhus Municipality has a very strict IT-policy among students which means that all providers must require a data processing agreement with the municipality, and it's a huge and complex agreement - especially if they companies use subcontractors - Aarhus Municipality they will not use resources to make this agreement with the DALDIS Project.
14. In June 2022 The Danish Data Protection Agency has come to the decision that the Google Workspace are not legal for use in the Danish school system - in there statement and justment the Danish Data Protection Agency says: "(...)general ban on processing with Google Workspace until adequate documentation and impact assessment has been carried out and until the processing has been brought into line with the Regulation" cf:

(<https://www.berlingske.dk/danmark/afgoerelse-kan-stoppe-folkeskoler-i-at-brug-e-chromebooks>) This statement from the Danish Data Protection Agency was a big deal in Denmark especially in the Danish Municipalities.

The above have been seen with great importance because 50% of all schools in Denmark are using Google Workspace.

The reason why The Danish Data Protection Agency have made the decision is that the schools and municipalities can not with a 100% certainty say that the students data is not going to Google and servers in the US. One thing the Danish Data Protection Agency's ruling is the "Google schools' another, and for the project more important issue, is that all digital learning materials incl. The big Danish publishers (Gyldendal and Alinea) are also in an area of the Danish Data Protection Agency ruling. The publishers, as well, can not be 100% sure that all their student data is not going to a US server or a third party of some kind etc. This means that schools in Denmark have since July 2022 been on a temporary arrangement in relation to the use of online learning materials at and the use of these at schools - which means that it is basically not "legal" for schools or teachers to use other online materials than the materials which the municipality has purchased via their purchase agreements.

15. Solbjerg Skole chose to discontinue the collaboration due to the Data Protection Authority's decision, and thereby they could not/would not include DALDIS in teaching at the school. Tranbjerg Skole has been part of the project, but also eventually wanted to stop - this with the same reasoning as Solbjerg Skole.
16. There have been large municipal savings in the school area throughout Denmark. This includes both Rebild Municipality and Aarhus Municipality. Rebild Municipality must find approximately DKK 40 million in the current school year (2022/2023) - This means possible closures of one of the municipality's seven schools. This has had an impact on the mental capacity of both school management and teachers to relate specifically to the DALDIS history materials.

7. Teacher and student feedback

Teachers feedback:

- [DALDIS - Historie forløb - Undervisere](#) (8 answers)

Student feedback:

- [DALDIS . Historie forløb - Elever](#) (99 answers)

8. Teacher and student feedback

Teachers:

- 71,4% of all teachers viewed the students' usage of DALDIS JC Quest as positive.
- 57,1% of all teachers experienced a better overview in the students' learning when they used DALDIS JC Quest.
- 71,4% of all teachers would like to use DALDIS JC Quest again.

Students:

- 72,1% of all students would like to use DALDIS JC Quest again.
- 74,5% of all students experienced positive academic progress.
- 92,2% of the users used DALDIS JC Quest in the subject History.

9. Background information

- **Participating teachers:**

- | | | |
|--------------------------|---|-----------------------------|
| ○ Trine Damgaard | - | Maarslet Skole |
| ○ Tine Høj | - | Maarslet Skole |
| ○ Helle Mikkelsen | - | Tranbjerg Skole |
| ○ Anders Juul Thomsen | - | Maarslet Skole |
| ○ Søren Søndergaard | - | Arden Skole (school leader) |
| ○ Britta Leihm Petersen | - | Tranbjerg Skole (English) |
| ○ Runa Keller Enevoldsen | - | Maarslet Skole |
| ○ Thue Simonsen | - | Tranbjerg Skole (English) |

- **About The Danish Data Protection Authority:**

- [Datatilsynet fastholder forbud i Chromebook-sag](#) (The Danish Data Protection Authority maintains the ban in the Chromebook case)
- [Datatilsynet nedlægger behandlingsforbud i Chromebook-sag](#) (The Danish Data Protection Authority imposes a processing ban in the Chromebook case)
- [Skoler tøver med at bruge læremidler fra udlandet af frygt for datasikkerhedsreglerne](#) (Schools hesitate to use learning materials from other countries for fear of data security regulations)
- [Helsingør kommune får grønt lys til Chromebooks i to måneder](#) (Helsingør municipality gets the green light for Chromebooks for two months)
- [Afgørelse kan stoppe folkeskoler i at bruge Chromebooks](#) (Ruling may stop primary schools from using Chromebooks)

- **About Municipal savings in Aarhus:**

- [Store besparelser på vej i Børn og Unge](#) (Big savings on the way in Children and Youth)
- [Aarhus strammer budgettet op, men holder en hånd under de mest sårbare](#) (Aarhus tightens the budget, but keeps a hand under the most vulnerable)

- **About Municipal savings in Rebild:**

- [Vi kan blive nødt til at tage penge fra bankbogen](#) (We may have to take money from the bank book)
- [Skolelukning rykker et skridt nærmere](#) (School closing moves one step closer)