Digital natives

A study of how pupils who are “digital natives” can benefit from peer learning whilst developing IT integration into the art classroom

James Snell
Abstract

Our 21st century students are a generation who are growing up in the digital age. As a result, through daily usage, their technological competence is developing rapidly. As their educators it is important to be aware of this crucial fact. The aim of this study is to investigate how pupils can be involved in integrating the use of digital technology skills in the art classroom and learn from each other in the process. The key questions are: How do pupils respond to a peer learning art project? Can a peer learning art project be a good way to integrate IT into the art classroom? In order to find answers to these questions, three observations during various stages in their art project were carried out. In addition, structured interviews with each of the pupils and the responsible teacher were conducted. The results showed that although the pupils were unfamiliar with being asked to organise, collaborate and present their group project, they learnt how to work together to achieve their goal and found it a positive experience. The results also showed that, if the project is designed carefully, IT can be integrated successfully into the art classroom using a peer learning project.

Key words: peer learning, IT in schools, visual art
# Contents

**Introduction** ........................................................................................................................................... 4  
  *Purpose* ............................................................................................................................................... 5  
  *Key questions* ..................................................................................................................................... 5  
  *Previous Research* ............................................................................................................................... 6  
  *IT in schools* ....................................................................................................................................... 6  
  *Curriculum requirements* ..................................................................................................................... 8  
  *IT in aesthetic subjects* ......................................................................................................................... 9  
  *Peer Learning* .................................................................................................................................... 10  

**Method** ............................................................................................................................................... 12  
  *Method choice* .................................................................................................................................... 12  
  *Researcher’s Background* ..................................................................................................................... 12  
  *Participants* .......................................................................................................................................... 12  
  *Colleagues* .......................................................................................................................................... 12  
  *Pupils* .................................................................................................................................................. 13  
  *Observation* ......................................................................................................................................... 13  
  *Interview* ............................................................................................................................................ 14  
  *Personal Interview* ............................................................................................................................... 14  
  *Ethical principles* ................................................................................................................................. 14  
  *Considerations* .................................................................................................................................... 15  

**Results** ............................................................................................................................................... 17  
  *The grade 9 art project* ........................................................................................................................ 17  
  *Use of IT* ............................................................................................................................................ 17  
  *Choice of presentation method* .......................................................................................................... 18  
  *Time* .................................................................................................................................................. 18  
  *Peer Learning* ................................................................................................................................... 19  
  *Group work advantages* ...................................................................................................................... 19  
  *Group work disadvantages* ................................................................................................................. 19  
  *Communication and interaction* ........................................................................................................ 20  
  *Leadership and participation* ............................................................................................................. 20  
  *Teacher involvement* .......................................................................................................................... 21  
  *End of project presentations* ............................................................................................................... 22  

**Analysis and Discussion** .................................................................................................................... 23  
  *Method discussion* .............................................................................................................................. 23  
  *Peer learning* .................................................................................................................................... 23  
  *Peer assessment* ................................................................................................................................ 25  
  *IT integration* ..................................................................................................................................... 25  
  *Future implementations* ....................................................................................................................... 27  

**Bibliography** ....................................................................................................................................... 29  
  *Literature* .......................................................................................................................................... 29  
  *Internet sources* ................................................................................................................................. 30  

**Appendices**
Introduction

I am reminded daily that pupils are becoming increasingly dependent on their computers. Whether we like it or not, this technology is very much a part of their lives. During a recent art class one of my pupils had finished his artwork and so I gave him the freedom to ‘be creative’. He could choose what he wanted to create, paint or draw. He had a wealth of art materials at his disposal. Without hesitation, he instinctively reached for his laptop and started creating a digital icon using an online drawing program. It is interesting as an art teacher to see this change of culture, this new way of thinking and creating. Just five years ago, this choice of digital ‘creativity’ wouldn’t have even been an option for the pupils because we simply didn’t have the technology available.

In my opinion, the integration of digital technology in the classroom is exciting. The potential for learning is boundless. Within the past year, I have realised that despite my best efforts to keep myself up to date with rapidly evolving technology, many of my pupils are more knowledgeable, confident and digitally savvy than I am. Many teachers today are facing the same problems and challenges as I do – it is a global pattern as American digital media expert and educator Marc Prensky (2001:2) points out: “…digital immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language.”

In 2001, Prensky invented the term ‘digital natives’. He means that 21st century pupils are born into digital technology. They have grown up with it. For many, technology plays a huge part of their everyday lives. Prensky goes on to describe the non ‘digital native’ as ‘digital immigrants’ (2001:2). We are learning about digital technology much later in life and as a result we find it more of a challenge to integrate this into our teaching. Many schools are trying to incorporate technology into their classes and with this, educators are faced with increasing pressure to move with the times. However, the pupils are far ahead of many of their teachers with regards to digital technology and also how they can use it to their advantage in class. Without the impetus and time to learn it, we could be seriously hindering our pupils' 21st-century progress.

In my opinion, the most under-used resource in teaching today are the pupils themselves. When one considers the use of IT, our pupils are knowledgable, competent and motivated. Using their technological aptitude, I have often witnessed that they share their knowledge with each other, communicating with one another in their own language. This method can be defined as peer learning. Peer learning is not a new concept. The Czech educational reformer, John Amos
Comenius, remembered mainly for his innovations in methods of teaching (Sadler, 2013), believed that learning in collaboration with others “ger goda och mångsidiga resultat” (Williams 2001:13).

I think that our pupils should be consulted and involved in the process of developing IT integration. If there were a way of combining what they know about technology with what we know about education then it is clear that their learning can be enriched. The pupils could take an active part in the teaching instead of passively receiving information from the teacher. This has the potential to enhance and encourage more learning for the 21st century pupil.

Through the use of peer learning, I want to investigate how this could work in the classroom, specifically the art room where, in my opinion, there needs to be a delicate balance of traditional methods and digital technology. In order to come to conclusions regarding the best way to integrate IT in the classrooms whilst allowing pupils to take control over their own learning process and learn from each other, I will let the pupils of a 9th grade class at Stockholm International School (SIS) take on an art project in which the pupils themselves will take ownership of the IT used in the project.

**Purpose**

The aim of this study is to investigate how the pupils of a 9th grade art class can be involved in integrating the use of digital technology skills in the art classroom through the concept of peer learning.

**Key questions**

How do pupils respond to a peer learning art project?

How can a peer learning art project be a way to integrate IT into the art classroom?
Previous Research

IT in schools

Computers have been evident in Swedish schools for 50 years. Hylén (2011) explains that computers were used in Swedish schools as early as in the 1960’s, but it was not until the beginning of the 1970’s that computers became more widespread into Swedish schools. In the middle of the 1980’s there were three motives for implementing computers in school; “inlärning, arbetsliv och demokrati” (Jedeskog, 1998:15), but then, more recently a fourth aspect (which was more dominant than the others)- information technology’s “förändringsaspekten” (1998:15), which means that IT was seen as a tool to help change the way of working, both for pupils and teachers. Computers and digital technology have revolutionised the way that the new generation of learners are being educated. Hylén explains that since the 1960’s, this technology has been seen as a tool to make teaching more effective: “…datorn framstod då mest som en maskin för att rationalisera och effektivisera undervising” (Hylén 2011:27).

During the mid-1990’s, the US were the first to introduce one computer to every student as Microsoft initiated a project in 1000 schools called “Anytime, Anywhere Learning” (Hylén 2011:45). (Ibid.) explains that this initiative quickly spread through many of the US states, with the ambition to ”förbättra elevernas studieresultat, att minska de digitala klyftorna, att förbereda eleverna för arbetslivet och stärka den ekonomiska konkurrenskraften.”

Results from studies in the US show that there were positive effects on pupils’ motivation, engagement, and the quality of work submitted. Therefore, the school results reflected positively.

Hylén (2011) states that IT was introduced and invested into in schools in Sweden for four main reasons, two of which are mainly political and the other two are more pedagogical motivations:

1. Ur samhällsekonomisk synvinkel.
2. IT i skolan är nödvändigt för att ge eleverna medborgerlig kompetens
3. IT är ett verktyg för att höja effektiviteten i lärandet.
4. IT är en katalysator för förändringar som kan göra skolan mer flexible och höja kvaliteten i lärandet. (Hylén 2011:11)
During my seven years of teaching at SIS, I have witnessed slow, but significant changes in the daily use of technical tools in the classroom. During my first year, the art room had one computer in the front of the class, which was for teachers’ use only. When we wanted to show the pupils’ artwork, present the outline(s) of a course or describe the grading criteria, we would photocopy the material onto acetate sheets and project the image onto a white screen with the use of an overhead projector. This was standard practice in most of the classes in the school. Now, only seven years later, the projector has become a dinosaur. The technology has advanced dramatically in the past few years and now all classrooms have an Interactive Whiteboard. As of 2011, every teacher and pupil in the upper school of SIS was issued with a laptop. This significant increase of digital hardware is not exclusive to my school, efforts have been made throughout many Swedish schools: “…under de senaste två-tre åren har flera svenska kommuner påbörjat projekt med bärbara datorer i undervisningen och med en dator till varje elev” (Hylén 2011:45).

SIS needed to harness and encourage the pupils’ competence with the technology by ensuring that they all had easy access to a computer. All pupils in the primary school at SIS now have access to a tablet computer to aid their learning. As of this academic year, the school has even hired an IT technician, whose role is to help teachers integrate IT into their lessons. IT integration has become a topic of conversation among teachers and the management team. Our IT technician gives regular tips of suitable apps, and on how to pedagogically incorporate it into our classes. Without his regular input, with support from fellow colleagues, and designated time to experiment with the new digital tools, it would be easy to find oneself lagging behind everyone else.

Since the introduction in 2011 of one laptop for every student in the secondary school at SIS, it has had an impact on the social aspects of learning. I have noticed that interaction between the pupils has diminished significantly. Many of my pupils immediately turn to their computers for information, inspiration or purely out of habit (in particular my younger secondary pupils). Actually, traditionally the classroom was a place where interacting with peers was not deemed important, and more priority was given instead to individual learning. Pederson describes it thus: “…den viktigaste pedagogiska motiveringarna för 60-talets undervisningsteknologi var de ökade möjligheterna till individualisering av undervisning” (Pederson 1998:49). The aim was that pupils should work in front of their “undervisningsmaskin” (Pederson 1998:49) on an assignment individually, at their own pace. The trend of pupils relying on the computer that I’m seeing in my classes are significant, and as their educator I’m constantly trying to achieve a balance in the art room between positive, minimal usage of the computer and encouraging more analogue interaction. A school is a social
environment, both in and out of the classroom and we should always be encouraged to let our pupils work in groups on projects.

More than 10 years ago, researchers within the field saw the potential of changing who teaches whom when it comes to IT. According to Prensky, “we need to invent Digital Native methodologies for all subjects, at all levels, using our pupils to guide us” (Prensky, 2001:6). As we have seen, this view hasn’t yet been taken on by the curriculum. We still underestimate the potential of our young learners and of what they know and do. It seems we should put more trust into the pupils’ abilities, because, as Richard Gerver (2010:14) states, “…they know innately how to find out new technologies without having to be shown. In fact they are discovering application for devices that the experts themselves had not thought of.”

Curriculum requirements
According to the Swedish school’s national curriculum, one of the goals today is to “…stärka elevernas digitala kompetens på olika sätt” (Diaz 2012:78). It states in the curriculum Lgr11 that, through the teaching of the subject of art, pupils should be given the opportunity of developing their ability to create art work using IT: “…skapa bilder med digitala och hantverksmässiga tekniker och verktyg samt med olika material” (Skolverket 2011:20). In Grades 7-9 (which is the age range that I have been involved with for this project), the pupils are expected to explore digital software further: “Digital bearbetning av fotografier och andra typer av bilder” (Skolverket 2011:22). This is quite specific, yet this is the only reference to how digital media should be used. Digital media is seen as a tool to create or adapt the artwork rather than a tool to enhance the actual learning process. With regard to the learning expectations, it is up to the teacher to decide whether digital tools will be used or not.

At my school, we work with two different curricula. Our 3 to 11 year old pupils learn with the International Primary Curriculum (David Playfoot & Martin Skelton, Fieldwork Education, 2013) and the pupils aged between 11 and 16 use the Middle Years Program (MYP), which is an International Baccalaureate Organization (IB) program. The programmes are designed specifically for today’s global society. Students who attend our school often move from country to country staying only a few years in each place. Thanks to the fact that these programmes are provided in national and international schools spread around 147 countries, the students can simply continue their program regardless of where in the world they live.

Unlike the Swedish curriculum, our curriculums actually have no guidance or requirements for the use or implementation of IT. The management team or the respective heads of department provide the guidance, resources and general
expectations for implementing IT in the curriculum. However, it is entirely up to the teacher to decide how to most efficiently use it in his or her lessons. The individual teacher’s ambition and attitude toward the use of the digital technology will determine how much the IT would be used in their class. However, the management expects us to be integrating it in all classes and the IT action plan, (which was introduced in 2012) states clearly that the goal is to enrich the pupils in the following ways:

- collaboration
- creativity
- communication
- variation
- internationalism
- individual learning
- sharing/publishing
- inclusivity
- accessibility (SIS, 2013)

My personal experience, which I know I share with many colleagues, is that there is often a general frustration around integrating IT in the classroom, and we often struggle to know how to do this effectively. The pupils’ knowledge of various programmes or applications is, in many cases, far superior to the teachers’, which challenges the traditional role of the teacher as the knowledge provider. “Often from the Natives point of view their Digital Immigrant instructors make their education not worth paying attention to compared to everything else they experience – and then they blame them for not paying attention!” (Prensky, 2001:3).

**IT in aesthetic subjects**

Harnessing and developing pupils’ creativity is of huge significance in schools. Pupils need opportunities to explore their own creativity in a ‘non-academic’ subject. Not doing so denies them the freedom to express themselves visually. Thankfully, this freedom is available to all pupils who attend school in Sweden. The way in which pupils create varies from child to child. In my experience, in the art room most pupils are prone to applying the more traditional methods of art making; yet others tend to explore their creativity through more digital methods, as using a drawing program like Adobe Illustrator or Paint. I like to encourage both methods but I try to ensure that technology is used mainly as a tool and not to be relied upon too much. Selander and Kress describe the situation, ”Där finns studier som visar att hinder i teknologisk kompetens försenar arbetet, att för mycket information kan vara distraherande för målet med ett visst arbete, att elever ibland lockas till att ‘klippa och klistra’ istället för att bearbeta information mer djupgående” (Selander & Kress 2010:61). However, under the guidance of the teacher, pupils can be taught to use the technology as a tool and not to rely on
it too much. A lot of this of course depends on the age, experience and maturity of the pupil. Technology can be used to document the process of the artwork, from the initial ideas and sketches to the finished result, in the form of a digital diary. This form of documenting the process makes it easy for the both the pupils and teacher to visualise their progress. However, as Gunnilla Welwert explains, art lessons are still a practical subject where traditional methods of creating artwork are quite normal, “…i bildundervisning idag pekar allt mot att lektioner fortfarande mest används till analogt praktiskt arbete där tekniker tränas” (Welwert, 2013).

Peer Learning

In everyday life, we are constantly learning from each other, from colleagues, family or friends. We consult people to gain their knowledge quickly. We often trust and respect their opinions perhaps because they have faced similar situations similar to our own and they converse with us in our own language. This informal learning occurs throughout our lives, from a very young age. Our pupils are sharing information with each other constantly, exchanging ideas and opinions on trivial things to more academic topics. Many pupils tend to seek advice or help from peers rather than the teacher. This is often when learning occurs. With enough planning and structure, this natural form of peer learning can be harnessed and utilised in the classroom to aid the motivation and learning potential of the pupil.

Boud defines peer learning (in its broadest sense) as “students learning from and with each other in both formal and informal ways” (Boud, Cohen and Sampson 2001:4). He goes on to describe the various learning outcomes of peer learning. Working with others: Working together gives them practice in planning and teamwork; it can prompt a sense of responsibility for one’s own and other’s learning. Critical enquiry and reflection: It provides opportunities for formulating questions rather than simple responding to those posed by others, peer learning can provide opportunities for deep engagement in the learning process. Communication and articulation of knowledge, understanding and skills: Peer learning activities require pupils to develop self-management skills and managing with others. Self and peer assessment: Peer learning settings provide opportunities for adding self and peer assessment of a formative kind. Self-assessment and peer judgements are more common (in the workplace) and can often have a more powerful influence than formal appraisals (Boud, Cohen and Sampson, 2001:9).

These learning outcomes are all positive and the learning potential is huge. It is important to note that there is plenty of potential for fun and joy in collaborative projects, and, as experience shows, this promotes motivation. I think that Professor Matthew C.E. Gwee states it well in his online article regarding peer-
learning, “Peer learning optimizes student learning outcomes and provides a more holistic, value-added and quality-enhancing education that will better prepare students for the needs of the workforce in this millennium” (Gwee, 2003).

The concept of peer teaching or peer tutoring is also something that I have come across in my research. Peer tutoring is usually defined as one-way communication in the more traditional sense of teaching: “Peer tutoring involves students teaching other students in a given subject area and takes a variety of forms, including one-to-one tutoring by more experienced students; formal student presentations in seminars and tutorials; and students actively assisting other students, both in small-group learning activities in tutorials or labs, or informally with friends outside of class contact hours” (Goodlad and Hirst, 1989:184). This study and its activities were designed with the concept of peer learning in mind, where “peer learning should be mutually beneficial and involve the sharing of knowledge, ideas and experience between the participants” (Boud, Cohen and Sampson, 2001:3).
Method

Here I describe the methods I have used and how the choice of informants was made. I also describe how the different methods work.

Method choice

Given my aim to understand how pupils learn from each other by using various digital platforms, I chose to make observations of five small groups of art pupils. These groups were given a relief art project and through communication and collaboration, they were asked to create a digital exhibition with which to display their artwork. For this study, I have chosen to use two methods of research. Observation was an important method because it was imperative for me to directly witness this interaction and how they learnt from each other. To gain a deeper, more personal and broader understanding, I chose to use interviews as a source. These were conducted with the teacher and the pupils.

Researcher’s Background

My position as a graphic designer in the UK ten years ago enabled me to experiment daily with various design software. However, since then in my teaching career, I have not really had the chance to develop my IT skills in a structured way apart from on a need-to-know, ad-hoc basis. Since the school employed an IT-specialist a year ago, my own IT competence has developed dramatically. Despite the fact that my confidence in the technology improves on a daily basis, my pupils rarely ask me for assistance with computer-related queries.

Participants

Colleagues

Through discussions and planning, I was able to integrate two of my colleagues who assisted me in this project. I had the advantage of having access to a highly competent IT technician who plays an important role in informing the pupils of the technical tools at hand during the project. His involvement in this study occurs just on this occasion. Any extra technical assistance that the pupils might need, they had to seek themselves. The second participant was the teacher of the 9th grade art class, Christina Turner. She led and guided the pupils during their learning process. She was also a significant informant, since, through my interviews with her I gained an understanding of how she viewed the progress and success of the project.
Pupils

The 16 pupils who were chosen for this study were in a 9th Grade art class at SIS. The pupils were aged between 14 and 15. The class consisted of both boys and girls who grew up in a range of different countries. I chose this class in particular because I felt that they were mature enough to carry out the project, I knew their teacher, (so collaboration was going to be easier) and finally, I did not know the pupils prior to working with them. Not having had previous contact with them ensured that there was enough distance in our relationship to allow for increased objectivity in the results. For my project, they were placed into three groups of three pupils and two groups of four pupils. I wanted to create small groups and to mix the groups so that there were boys and girls in each group. They were intentionally not grouped with their close friends.

Observation

Observation, as a method of qualitative research, is a direct way of gaining information quickly and efficiently, as Denscombe (2009) concludes. During my observation process, I observed how the pupils communicated and interacted with each other and how their group dynamics were with respect to participation and leadership. By observing the pupils I could combine the results of my own observations with the results of the interviews and get a broader perspective on how the pupils perceived the peer-to-peer teaching and the use of technology.

As opposed to the interviews, I did not interact or speak with the pupils during my observations, as the aim was not to influence them with my presence. Denscombe (2009) points out that: ”Möjligheten att bibehålla miljöns naturlighet vid systemastisk observation hänger på forskarens möjlighet att smålla i i bakgrunden och praktiskt taget göra sig osynlig” (2009:236).

I conducted three observations throughout the art project. I have deliberately spaced them so that I could witness whether the pupils' interaction changed during the different phases of the project. The first observation occurred when the pupils began the clay part of the project; this was roughly two weeks into the project, after their initial, individual research into reliefs had been carried out. The second observation I conducted when the groups began to compile their work digitally. The last observation that I made was at the end of the project, when the groups presented their finished work to the rest of the class.

Denscombe (2009) points out that there are three factors, which are most important to consider when carrying out observations. They are placement, avoiding interaction and time spent observing. Therefore, I needed to be discreet, allowing the pupils to interact with each other in the most natural way, which meant that I needed to be observing from a good location, for example from the
back of the classroom. I also needed to be socially invisible and avoid the temptation to talk with the pupils. The longer time spent in the learning environment, the less obvious my presence had to be if the observations should be closer to reality.

I observed how the pupils communicated and interacted with each other, how the group dynamics and participation were and if someone took on a leading role (see Appendix 2).

**Interview**

Conducting qualitative interviews for this study provided detailed information and personal opinions from the participant. The informant was able to respond to my questions without any previously formulated responses to choose from. To keep this investigation structured and consistent, all of the pupils were asked the same questions, in the same order. The teacher was also asked questions but they were aimed at gaining her opinion on the efforts of her pupils and groups. The informants had the opportunity to explain their personal views in a relaxed, confidential and quiet environment, away from their peers, to someone who was not critical or who would judge their answers.

**Personal Interview**

The most common type of interview is the personal interview. As the study progressed, I aimed to discover how the pupils felt with regard to how the group functioned together and how much learning they felt was taking place. The views, opinions and ideas that came from the interviewee were one person’s response to the questions so the information should be relatively simple to explore. I recorded interviews with a recording device, which was placed between the student and myself. Interviewing one pupil at a time made it easier to transcribe the conversation from the recording, as there aren’t other voices to contend with.

There was one session of interviews. I interviewed every member of each of the groups, one by one (Appendix 3). The interview occurred after my second observation and they were carried out in the Expressive Arts office. This quiet room was situated at the rear of the art room. This close proximity easily allowed me to call the pupils out one by one.

**Ethical principles**

Writing a report of this nature requires a certain amount of sensitivity, especially considering the age of the participants. My interviews and observations were conducted in accordance with the Vetenskapsrådet (2011) requirements for social science research.
According to Vetenskapsrådets publication entitled ‘Forskningsetiska principer inom humanistisk-samhällsvetenskaplig forskning’ (2011), it states the following: “Det grundläggande individskyddskravet kan konkretiseras i fyra allmänna huvudkrav på forskningen.” These areas are: Informationskravet, Samtyckekravet, Konfidentialitetskravet and Nytjandekravet.

Informationskravet, has been satisfied with the information letter before the art project began, Samtyckekravet has been satisfied by the participants agreeing to partake in the research, Konfidentialitetskravet was satisfied through the participants being informed that their identity will be anonymous and that all recordings during the interviews will be kept private. Finally, the information that was shared would only be used by the author, and this satisfies the Nytjandekravet.

I informed the parents/guardians of the 9th grade students of my study via email and a letter, (to ensure that they received the information/request) asking them to contact me if they did not want their children to be interviewed or observed (Appendix 1). In the letter I told them about the purpose of my work and that they were welcome to contact me if they had any questions regarding their child’s involvement or my research paper. They were also informed that the informats of the report would be made completely anonymous. The recorded material would be private and not be played by anyone other than the author. None of the pupils or their parents declined, in fact, everyone seemed enthusiastic about the project.

Considerations

All pupils are individuals, all with different learning experiences (in particular at SIS where most of the pupils have been partially educated outside of Sweden), so certain considerations need to be acknowledged. Although co-operative learning practices are commonly used in schools, there could be pupils who simply do not feel comfortable working in this way. As Jane Sampson and Ruth Cohen states, without support “the students become confused, uncertain about how to process, and feel unsupported and sceptical about the value of what they are doing” (Boud, Cohen and Sampson 2001:23). This is why involvement, support and encouragement are provided by, not only their peers, but also from the teacher. Depending on the age of the pupils the group, this task could provide the others in the group with more responsibility, which in turn will increase their confidence. Similarly, pupils who have been used to being taught more formally by a teacher could find it difficult to accept that their peers can teach them anything. Peer learning is done by necessity in a social setting. If there are pupils who do not feel comfortable in a group, or if there perhaps are conflicts between group members, this will obviously affect the pupils’ opportunities to learn. There are other factors too, for example differences in “age, disability, nationality, sexual orientation and
other features that have nothing to do with what is being learned” (Boud, Cohen and Sampson 2001:26).
Results

The grade 9 art project

The pupils were asked to investigate reliefs from around the world. The groups chose the following periods to research: Pre Columbian, Egyptian, Greek, Roman and Renaissance. They were provided with 7 questions that they were required to answer in order to fulfill the course requirements (see Appendix 5). The answers were to be worked on as a collaborative project. During this 6-week project, the pupils were required to individually create a clay relief based on the group’s investigation. The pupils were introduced to four different digital methods, which they could use to document their progress, record their findings, reflect on the process, and exhibit their artwork and investigation. The options they had were the following:

- A Prezi – a software for presenting ideas on a virtual canvas.
- Blogger – a Google weblog publishing tool for sharing text, photos and video.
- An iMovie film – software used to record film, pictures and sound.
- A Powerpoint – software used for presentations in the form of slides.

These various methods were introduced to the pupils by the IT technician in the form of a Prezi. At the end of the project, they were required to partake in a digital exhibition. Their artwork was to be presented orally together with their chosen digital presentation tool.

Use of IT

The pupils in this 9th Grade class were mainly confident and capable IT users. Apart from one pupil, all of them worked on their laptops to either locate online sources of information about their particular relief period or to compile their findings in their group Prezi. AirDrop (a method of sharing files, via Wifi, from one computer to another) was the most common method used to transfer information from one laptop to another.

During my first observation, I observed one pupil showing Christina a method of AirDropping files in a quicker way. Her comment to me afterwards was, “that was a great example of how digital natives work.”
Most of the work on the presentation was completed on one computer but it was interesting to see all four members of one group crowded around one computer to view the progress of the Prezi and to add their views of design and the presentations’ content.

**Choice of presentation method**

All five groups decided to present their work using the same presentation method - a Prezi. The pupils had been given the option of using 4 different methods, yet they all decided to use the same one. This was a tool with which many had prior experience.

The interviews showed that most of the pupils (15 out of 16) had prior experience with Prezi. Assignments in other subjects, like Humanities and English had required the pupils to present their work with the aid of a Prezi. 15 out of 16 pupils thought that Prezi was an easy program to use and was an easier option than the more unfamiliar tools that had been suggested by the IT technician. Pupil (no. 5) explained to me the program’s simplicity: “We chose Prezi because it’s really easy to use and it’s easy to customize and to put in pictures and stuff.”

Another pupil (no. 10) thought that it was the obvious choice for a different reason: “One of the main reasons why we chose it was because we wanted to be able to talk in our presentation rather than like, show a video, we preferred to talk so that you can connect with people who are viewing.” For her, it was important to be able to explain their research verbally. The Prezi was to be used as a visual tool to show various pictures. This was interesting because the other two members in her group weren’t necessarily confident and had one of them had limited English skills.

**Time**

A dominant factor in the IT decision-making was the time factor. It seemed that for a few pupils, it was going to be challenging to complete the assignment if they attempted to use an unfamiliar digital presentation tool: “The website sounded interesting but it was too much work given the time-frame for my group to complete.”

Another group also considered the time constraint: “From the time we were given, it [the assignment], it was the best one to choose. A movie would take a long time, for a blog, probably a long time too, so with the time thing, a Prezi was best. If we had more time, we’d do a movie”. Two of the pupils had ambitions to use other digital programs but had contemplated the various time restrictions. The groups appeared to be relaxed as a result of this decision. During my observations, there was very little evidence of stress within the group. The decision to use the Prezi
option reflected in the overall enjoyment of the project. I saw that they were relaxed and this general attitude encouraged more involvement in the project.

**Peer Learning**

This group activity had been designed to encourage peer learning. The general attitude from the pupils was that it was a positive experience. 14 out of the 16 pupils claimed that they had gained a lot from it. However, all 5 groups chose the same safe and familiar option of the Prezi, meaning the potential for learning lessened considerably. Another aspect that affected this was the way in which the groups divided the tasks in the group. There was one nominated group member who compiled the results. One student’s comment was, “I haven’t learnt anything about the Prezi. I was just collecting information.”

It was encouraging to discover that 11 out of the 16 pupils had learnt something from a peer during the five-week project. Despite the markedly quiet atmosphere of the class (during my observations), there were clearly enough occurrences of communication for learning to take place. Some pupils learned clay skills from their peers and five out of the 16 pupils learnt something new about the Prezi program. These new, basic techniques that they learnt varied from inserting of pictures to changing the Prezi’s background.

**Group work advantages**

During my interviews I discovered that the most positive aspect of working in small groups for the task was that the investigation assignment could be divided up amongst each of the pupils. One pupil told me, “It helped me a lot. We have worked pretty fast together. It has been a positive experience.”

For many, this was a huge advantage because it created more opportunities to receive help, “I can do much better than before (in the group) because we can help each other.”

When I asked pupil no.10, “How did working within a group help you during this project?” her answer was positive: “It’s good because if you have a question, then you’re able to ask each other and not being worried about another person doing it ‘cause you’re all in the same group. Everyone has lots of ideas and when they come together then it’s a big idea which is better.”

**Group work disadvantages**

Due to the fact that the pupils couldn’t choose their groups, it became rather hard for some pupils to connect socially with the others. This in turn led to a decrease in communication. For group 2, this greatly affected the fair distribution of tasks (within the digital stage of the project), which made the more proactive members of the group to frustrated. This surfaced during the interviews: “It isn’t that good
I guess because we are not good friends together, we’re from different groups or classes, we don’t get on that good. Me and X did most of the work.” However, this was the only group that had these frustrations. During observations, some pupils were doing more work than others. Some pupils were relaxed and knew that others would do the extra work in order to complete the task on time.

Communication and interaction
Generally, the groups communicated well with each other. In fact, I observed that in four out of the five groups, there were fairly regular and lively discussions regarding their artwork. However, not all groups had successful communication. During both observations, the members in group 2 said very little. One of the pupils told me: ”We didn’t communicate much during the whole project, the boys just sitting there”. Interestingly, both boys whom she was referring to told me that the communication was good. Their judgement obviously varies depending on what they constitute good communication.

During the first observation, the pupils sat in their groups but worked independently on their clay relief project. The class worked very quietly on their clay project. They all understood what was expected of them and once they had set themselves up with their clay and sculpting tools they quietly began their sculpting. Many of them were excited about using clay and keen to get started. The girls worked very quietly on their work whilst the boys were more vocal, more likely to chatter off topic. One pupil listened to her headphones so she made no effort to communicate with other members of her group. Due to the nature of this particular stage of the project, there was little interaction between the members of the groups.

A pupil in group 1 relied on good communication with her peers, and she told me the following in the interview, ”I’m not good with the clay so I ask them how they do this. I ask my friends first then the teacher.” Communication and interaction was good in this group and as a result, I observed that their Prezi developed quickly and efficiently. Naturally, a group like this who bond well can easily lose track of the task, and it wasn’t surprising to see that their topic of conversation often strayed off topic.

During my observations I saw plenty of interaction in the groups. This quote from a pupil in group 3 was quite interesting, and explains the advantages of being part of a group project: ”I can do much better than before (in the group) because we can help each other.”

Leadership and participation
All groups had a member who was the designated Prezi “designer”. This stands to reason because it would be impossible for all members of the group to
simultaneously compile their work on the same Prezi. Therefore, the most confident Prezi user would take on that responsibility. Each group contained at least one pupil who knew the basics of the program. The opportunity for others in the group to learn the techniques involved diminished dramatically, unless of course they had a genuine interest to learn.

During observations, I noticed that there were some groups that had clear leaders. This was particularly obvious in group 5. The only girl in the group issued directions to the others. I overheard her say the following: “Can you find examples of Renaissance reliefs whilst I put in all of the information?” The boys responded well to this leadership and started their research. I observed another female pupil who took the laptop from another group member (who was the designated Prezi designer) and said “Let me do it, I’m the best at this”. She proceeded to lead the group in this particular stage of the project. Often this kind of behaviour can lead to resentment in the group, or even conflicts but due to the tight relationship of the group members, I witnessed no such animosity.

Some pupils believed that either they themselves were leading the group or that someone else was keeping the group organised. This was particularly evident in groups 3 and 5. One of the pupils told me, “X has been a leader, she has been keeping everyone on track. We needed someone to take that role.” In the creation of their Prezi, this leadership has ensured that they were on target and producing an impressive, factual presentation.

One group had a member who seemed initially entirely uninterested in collaborating with the others. She spent roughly 15 minutes selecting music on her mobile phone without saying a word to the others. Then surprisingly, she started taking interest and her attitude dramatically changed. She took on a leadership role and started designating tasks to the other pupils in the group.

In most groups, the pupils worked quite independently on their tasks. The main topic of conversation was a) what information they wanted to include in their Prezi, b) where the information should be placed in the Prezi, c) who is responsible for finding the required information. These were important things to discuss and share. Then they would continue work on their task, and then Airdrop the acquired information to the group member who was compiling it all.

**Teacher involvement**

Christina allowed opportunities for the pupils to work as independently as possible. She drifted around the classroom and she answered any questions or queries that the pupils might have. Some pupils asked their peers for assistance before they raised their hand for the teacher.
With regard to the teacher involvement and its impact on their learning, some of the pupils wouldn’t seek the teacher’s advice about a digital query. When I asked a pupil question no. 6 - What methods have you used to learn the techniques? - he answered, “I asked a friend. Not a teacher. I thought they would know more than what the teachers do. Only in the Prezi situation. I would go to the teacher for help with the clay though.” This is a good example of how a “digital native” thinks. Three other pupils told me that they would automatically ask a friend for help with the digital aspects. One pupil assumed that the teacher has no knowledge about the program, he asks his friends for help because, “The teacher doesn’t know about the Prezi.” Which isn’t actually true, the teacher is quite knowledgeable but these assumptions are made. He went on to say the following, “About the art and technique, I think the teacher is more educated. When it comes to the digital, I would always ask the pupils.”

Christina told me that she wasn’t asked by any of the pupils for help with the digital aspects of the project. Her guidance was required in the sculpting process. She witnessed that the pupils were “experienced and familiar with the Prezi software”. She explained how the pupils can work quite independently with the digital tools and that any input from her was for more aesthetic and overall design of the Prezi.

End of project presentations
At the end of the pupils’ relief project, the groups were asked to make 5-10 minute presentations of their Prezis to the rest of the class. The content of the presentation was simple; they were required to explain historical facts about reliefs from their particular era, how they were constructed and the particular themes of the artwork. They were also required to take photos of their finished clay reliefs in order to explain their designs and inspirations. All pupils participated but some were more prepared and organized than others. Some of the groups had spent a considerable amount of time on their Prezis. A couple of groups had links within their Prezi to video clips on YouTube, which was an additional source of historical information. For some pupils, this was awkward for them, and it was clear that not everyone was used to speaking in front of their peers.
Analysis and Discussion

Method discussion

My observations and interviews were designed to create a method of gaining reliable information. However, upon reflecting of the project, it is quite clear that these methods might not be entirely effective and valid. During my three observations in class, my presence certainly would have affected the pupils’ natural behaviour, despite my intentions of trying to be as discreet as possible. My involvement in the project has influenced the reliability due to the fact that the pupils were told from the beginning that I would be observing how they collaborate in their small groups. This necessity disturbs and influences the natural environment of the class in some way. As Denscombe states, “Kan en forskare med en skrivskiva och ett observationsschema verkligen undgå att störa den naturliga miljön?” (Denscombe 2009:281).

Additionally, in hindsight I realised that some of the interview questions were unintentionally phrased in such a way that the participant was led into answering them in a particular way. For example, question 8: How did working within a group help you during this project? In this question, the assumption is made that working in a group was helpful. Perhaps a more unbiased, neutral phrasing like this would have provided a more informative answer: Did working in a group help you during this project? If the questions were more neutral in their design; this could have potentially produced different answers, therefore my results could have been affected. Perhaps some of the pupils answered the questions by telling me what they thought that I wanted to hear. “I synnerhet kan de intervjuades uttalanden vara påverkade av forskarens identitet” (Denscombe 2009:269). Therefore, some of the answers provided could actually have very little validity.

Peer learning

In response to my question, ‘How do pupils respond to a peer teaching art project?’ my observations and interviews have given me first hand experience of pupils interacting with each other and learning from each other. The response to the peer-learning project has been generally positive. Pupils have learnt many things from each other, from practical clay sculpting techniques, to basic Prezi effects. For many, this was the first time that they had worked together in a group in an art class. Most of the pupils had never been expected to collaborate on a digital project either. This unfamiliarity and inexperience provided the potential for a rich learning experience. The 9th grade teacher was enthusiastic about the project and the positive learning experience that both the pupils in her class had
gained. She was pleased with the way in which the pupils had responded to the challenge and their commitment to their task. During informal discussions with a few pupils out of the classroom environment, I received plenty of positive feedback about their experience during the project. This was encouraging to hear because I felt that they were speaking honestly and from the heart, away from the rigidity and formality of the interview. This outcome is in line with previous research, which has shown that “peer learning optimizes student learning outcomes and provides a more holistic, value-added and quality-enhancing education” (Gwee, 2003). The pupils I observed and interviewed felt that they found the experience of group work was enjoyable and that the project design provided opportunity for dividing work among the pupils, a strategy that corresponds more to the adult work place than traditional teacher led lessons.

During the 10-15 minute presentations, I noticed that the groups that had good collaboration, communication and participation, were more successful in their presentations. These groups had well-designed and informative Prezis and the way in which they divided the presenting of the work was equally divided. This discovery was interesting but perhaps not entirely surprising. Most of the more productive groups had a leader who had guided the group along the way. They managed their time better and they divided the work more fairly. However, these leaders were self-assigned and they had no guidance of how to lead their group in an effective way. Perhaps with more instruction and a clearer structure, then the leadership role would be more efficient. A more efficient leader could affect the outcome of a group project. This leadership role could be an aspect to be considered for future peer learning projects. This pupil would need training from the class teacher to make their responsibility clear. Questions arise about who would be selected for the leadership role, how the others in the group respond to that pupil and how much authority the leader should be given. Of course some members of a group could find it difficult taking instructions from a peer, especially if they don’t fall in the same social group. Experimenting with this scenario could be exciting and it would be interesting to discover how much learning occurs in this format.

There are inevitable power plays in group projects, and there will always be pupils who don’t take their responsibility seriously. During interviews there were some pupils who explained their ‘active’ role in the group, yet during observation, I witnessed very little contribution. These individuals create more work for the other pupils to complete the work, yet I think that the motivated pupils or the leaders in the group would find it hard to confront them, “Freeloaders create problems, but pupils do not always feel confident to confront them. Sometimes leadership issues emerge” (Boud, Cohen and Sampson 2001:63). This can be difficult for adults too. Challenging a colleague who wasn’t pulling his or her
weight in the department would also be hard. Such conflicts are often avoided just to keep the peace.

There have been many positive aspects of this peer learning project. As mentioned earlier, David Boud (2001) describes the advantages of working in groups, “Peer learning activities require pupils to develop self-management skills and managing with others” (Boud, Cohen and Sampson 2001:9). All of the pupils were required to try to collaborate with peers whom they didn’t know particularly well. One pupil during the interview explained the merits of working in a group, “It helped me understand the time constraints and I think that it has helped me with my patience!” Learning how to manage time and be a good communicator is a skill that all of the pupils in the 9th grade art class have had the opportunity to improve upon. This art project has provided them with an invaluable experience, which will (hopefully) equip them with the tools that they need to succeed in future group projects. Working independently on assignments obviously has its merits, but if we don’t try to design tasks in which pupils can work together with others to develop these skills of managing with others then they could find it challenging when they leave school and enter the workplace. Incorporating peer learning into the classroom can undoubtedly prepare pupils for the future.

**Peer assessment**

The MYP curriculum states that educators who use the program should be varying their assessment strategies, “In keeping with the ethos of approaches to learning, schools also make use of quantitative and qualitative assessment strategies and tools that provide opportunities for peer- and self-assessment” (IBO, 2013). My project has shown that peer collaboration can be an effective way of learning and it has encouraged me to begin designing assessment strategies, which are led by peers. I can see the advantages of this as it can be used for ‘addressing important educational outcomes, valuing peer learning (if something is not assessed then it can be seen by pupils and staff to be of lesser importance) and recognizing commitment’ (Boud, Cohen and Sampson 2001:68). At the end of my project, the teacher assessed the groups as a whole and she assessed them individually for their clay relief. However, this method of assessment was unfamiliar to the pupils as they are used to being just assessed individually. One particular high-achieving pupil considered it unfair because they feel that they contributed more to the group project and the less involved pupils gained equal credit.

**IT integration**

This project has opened up the question of IT competence in 21st century educators for me. The fact that the pupils in this 9th grade class would automatically ask their peers IT questions instead of their teacher makes me consider my own technical competence and how much extra effort that is required
in order not to be left behind. The fact that the pupils didn’t ask their teacher could be because they associate visual art lessons with more hands-on, traditional methods of creativity. Therefore their assumption that their art teacher does not have much technological knowledge isn’t so hard to comprehend. This is an interesting discussion with regard to the use of IT within the art subject. Despite the current excitement of technology in my school, I feel that as an art teacher I have to ensure that I’m not depending on it too much. In most subjects in the school, the pupils are required to use their computers to write essays, document science experiments, work out mathematical calculations, etc. However, the arts subjects (art, drama and music) are crucial to encourage creativity, in the real world, away from the digital ‘artificial world’ that the pupils are so used to living in. Using IT merely as a tool in these subjects is important. I need to remind myself of this, for the sake of the new generation of artists emerging.

The results showed that the pupils didn’t gain much from each other in terms of the digital aspects of the project. Due to the fact that many pupils chose the Prezi option because of the limited time factor, the relief project would have to be designed so that the pupils in their groups would have more time to create their digital presentations. I had discussions with the class teacher after the project and we both came to the conclusion that perhaps we could have selected the different digital presentation methods for the groups. In presenting them with totally unfamiliar methods, they would need to spend more time learning the software and therefore, more potential for collaboration and learning would occur. This in turn could provide the pupils with new skills that can be used in other subjects for presentations or personal use (like the blog option) and in turn, they could teach their peers and potentially their ‘digital immigrant’ teachers, how to use them. This spread of knowledge has the potential to affect the whole school and open the minds of many pupils. However, it could also be too time-consuming for some groups depending on their familiarity of the particular method, as obviously some of the presentation methods are easier to use than others.

Having an IT technician as a contributor of the study has been enabled the students to be presented with different digital presentation methods that perhaps they had not considered before. However, due to the fact that the 9th grade students chose the familiar method of the Prezi, his expertise hasn’t been required for additional support. His knowledge has been used on a daily basis for supporting mainly the staff at SIS. With the relatively new integration of computers in the school, it is the staff that needs more assistance than our pupils. He informed me that when he introduces a new programme or website to a class, he hasn’t been required to assist the pupils much individually as they are already rather knowledgable of the technology and how to use it.
With regard to the SIS IT action plan, I feel that this peer learning project enriched the pupils and ticked many of the boxes. It is collaborative and creative and peer learning projects really have potential to integrate IT successfully into the art classroom. Bearing in mind the limitations as discussed above, I believe that I can answer the question that I set out to investigate, ‘How can a peer learning art project be a way to integrate IT into the art classroom?’ The integration of IT into an art class can be have varying success depending on many variables. For example, how the technology is used in the art project, the level of IT competence among the pupils, the pupils motivation and the general collaboration of the group. As previously stated, the design of the peer learning project needs to be planned so that the pupils can take advantage of each others knowledge and learn from each other. Through the peer learning project in this study, the pupils definitely benefited from the peers’ knowledge of the IT software.

I look forward to exploring ways to fine-tune the projects so that IT is integrated taking into account the very nature of the art subject as well as the pupils’ individualities.

**Future implementations**

The project could be used as a guidance and help to other ‘digital immigrant’ teachers in designing projects for the art classroom that take advantage of the pupils’ IT competence, both in learning from each other and in enriching the learning experience. I am eager to implement what I have learnt from this project into my other art classes. Perhaps there could be more influence and input from the pupils themselves. Prensky inspires future methods in pedagogies; ”we need to invent Digital Native methodologies for all subjects, at all levels, using our students to guide us” (Prensky, 2001:6).

This study has shown that there seems to be an assumption among our ‘digital immigrants’ that teachers aren’t knowledgable with IT. Perhaps they’re right. However we can’t allow ourselves to be one step behind. Whilst our pupils are gaining more confidence and becoming more competent, we can’t simply sit back and watch. As Prensky (2001) mentioned in his paper entitled ‘Digital Natives, Digital Immigrants’, “Today’s students are no longer the people our educational system was designed to teach” (Prensky, 2001:1). The need to adapt and become competent is more important now than it ever has been and our leaders need to provide the opportunities so that this is happening.

The Swedish curriculum (Lgr 11) states that one of the many roles of the principle is to ensure that: “personalen får den kompetensutveckling som krävs för att de professionellt ska kunna utföra sina uppgifter” (Lgr11, 2011:19). The principle
has to ensure that their 21st century educators are attending pedagogical IT courses but also organise allotted time within the teaching schedules for instruction, and ensure that resources (IT support and hardware) are available for both the teachers and pupils of the school. A report by Skolverket entitled, ‘It-användning och it-kompetens i skolan’ (2013), states that “det finns ett stort behov av kompetensutveckling hos både lärare och rektorer. Hur datorerna ska användas som pedagogiska verktyg i undervisningen är exempel på områden där det behövs kompetensutveckling” (Skolverket 2013). Skolverket are aware of the issue and they believe that their voice is reaching the politicians and apparently efforts are being made to improve the situation.

It seems to me that soon enough, all professions will require a good knowledge and understanding of IT and its’ available tools as a base to work from. Equipping our pupils with IT skills and the capacity to use them in various subjects will make them better prepared for a professional career. Instead of falling behind our pupils, we should be one stage ahead so that we can use these tools to benefit our 21st century learners.
Bibliography

Literature


Internet sources


Appendices

Appendix 1

Letter for parents

Dear Parents/Guardians,

Hello!
My name is Jamie Snell and I work as an art teacher at Stockholm International School. I am currently reading the last semester of my teacher-training course at Umeå University. During this last semester I will be writing a thesis about how pupils can work together in a peer learning project to implement IT into the art classroom. I will be working alongside Mrs. Turner and making observations of how the pupils interact with each and how they use their knowledge of IT to create a digital art exhibition.

I will be conducting interviews with the pupils, recording their interaction with their peers and taking photos of them at work. Your children’s names in my study will be anonymous and the material that is recorded will be private and it will not be played by anyone other than myself.

In order to proceed, I will need your approval to carry out this project with your child. If you do not want your child to participate or you have any questions about it, please contact me via email at: j.snell@intsch.se or call me on 0762302185.

Sincerely,

Jamie Snell

Visual Art Teacher at Stockholm International School
Appendix 2

Questions for observation

1. Communication
   How much discussion is happening?
   Are they helping each other?
   Are they listening to each other?
   Are they communicating digitally as well as in the classroom (blog comments, etc)

2. Interaction
   How much do they interact with each other?
   Do they work together as a group?
   Are there more independent members of the group?

3. Participation
   Are there some in the group who are passive?
   Is the passive attitude reflected in their digital contributions (ie. is there a difference between their online/classroom participation)?
   Are they interested in what they are doing?
   Are some members of the group participating more than others?

4. Leadership
   Is there a student/s who takes a leadership role?
   Do the others respond well to that person?
Appendix 3

Individual interview questions

1. How do you think that your group has worked together?

2. As a group, have you communicated well?

3. Has anyone in your group taken a leadership role?

4. What particular digital tool have you chosen for your presentation and why did you choose it?

5. How much knowledge did you have about it before you started?

6. What methods have you used to learn the techniques? (Ask a friend, teacher, IT technician)?

7. During this project what have you learnt from your peers/friends?

8. How did working within a group help you during this project?
Appendix 4

*Teacher’s project outline: Application- Relief*

UNIT QUESTION: How do the events in our world affect our visual surroundings?

You will create your own relief using WHITE STONEWARE CLAY, modelling tools, rolling pin, wooden tray.
Size 20 x 20 cm.

You have one of three choices of themes. Choose one that you find the most interesting and get ideas from:

1. Visualise an **event or a personality** occurring during the **period** connected to your investigation.

2. Visualise a contemporary **event** or a well known **personality** of today in your relief (historical, political, cultural, religious).

3. Choose a photograph of a **childhood memory** or a **vacation**- both being snapshots of events.

*NOTE! Your relief should include at least a **person** and a **background**. Also think of the **proportions** in your relief.*

WRITE DOWN your choice and content in your workbook!
Start by looking for images of events or persons that can be used in your relief.

Make a **fine detailed drawing** measuring 20 x 20 cm of your image. Use pencil where you try to show shadows and important details.
Appendix 5

Student's project outline: Investigation on Reliefs

Grade 9 Visual Arts
Mrs. Turner

This research is done by each group. The investigation will be presented digitally and also in your mutual group presentation.

1. Investigate in your specific relief from the period selected.

2. Where does it come from and when could it have been made?

3. Which are the signs that confirm the actual period it was done? Are there any special features that confirm this? Style, cultural connections.

4. Describe the whole relief- items, the background setting if there is one, any symbols or other signs. Is it a high- or base-relief? Describe the difference.

5. What is the motif? Does it contain an event from the timeperiod, a story, a religious scene or a portrait of someone important at that time or any other background? Research religious, political and/or social connections.

6. What do you think was the purpose of the relief? Why was it made? Think about the connections to the actual content of the relief.

7. Collect visual evidence of the relief. Be sure to include your sources.