"Mining and Education in Greenland"

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Abstract
By analysing the Greenlandic mining industry and the governments mining strategy against the Greenlandic education system and strategy, with special emphasis on vocational education, this reports investigates what will happen to the Greenlandic populations education (Cultural Capital) upon development of the Greenlandic mining industry (A new field). It is done so by applying the concepts of Capital, Social Domination and Violence and the legitimacy of pedagogic authority, pedagogic action and Social Reproduction theories of Pierre Bourdieu. The investigations show that the mineral strategy works, that there are more job possibilities in positions that require vocational education, than higher education. The educational strategy works to some extent, as it should have more focus on mining industry, as the mining industry will create more jobs, especially when large-scales mine building begins. The vocational educational strategy does not address the mandatory requirement of the mining industry, that all employees without exception must speak at least Basic English.
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CHAPTER ONE

1.1 Introduction

Greenland’s subsoil contains huge quantities of natural resources such as oil, minerals, gold, rare earth, precious stones and iron. The country has therefore over time become very interesting for foreign companies to invest in. The biggest and most promising project in the country’s history is the iron mine near Isukasia (150 km from Nuuk). The iron mine will be built and managed by London Mining and it involves a total capitalist investment of 14 billion DKK according to their own estimates\(^1\) which is more than the country’s GDP (13 billion DKK in 2011 in current prices)\(^2\) if the Greenlandic people and government accepts the application to mine in Greenland by London Mining.

The government of Greenland hopes to create a new industry in Greenland that can ensure the welfare and prosperity of Greenland and its people. The industry chosen is the mining industry. This has been expressed most recently in the Greenlandic Prime Minister’s vision for Greenland in 2025\(^3\)

The new industry will not appear without any difficulties as there is a high cost level in Greenland, much like the Danish (higher in certain industries)\(^4\). The population is geographically dispersed thereto there is a high transportation costs\(^5\) and a lower level of education where only 70 percent have a primary school education\(^6\).

In the raw material area, there has been a significant exploration activity in recent years.

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1 “ISUA Iron Ore Project” Aug.27.2012 – London Mining
2 Økonomisk Råds Rapport 2012 – naturressourcer som vækststrategi
3 ”Vores fremtid – dit og mit ansvar – på vej mod 2025” Naalakkersuisut, Government of Greenland
5 [http://www.denstoredanske.dk/Samfund_jura_opPolitik/%C3%B8konomi/%C3%B8konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi](http://www.denstoredanske.dk/Samfund_jura_opPolitik/%C3%B8konomi/%C3%B8konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi_i_andre_land%20/%C3%98konomi)
6 [http://serimitsiaq.ag/node/134033](http://serimitsiaq.ag/node/134033)
It is particularly oil exploration in the waters west of Greenland which has attracted attention\(^7\). The incurred cost with such exploration has reached approx. 5 billion DKK in 2010 and 2011\(^8\). Most of the investigations are taking place with the use of foreign labor and foreign investment.

In the minerals area there has for some years also been a significant exploration activity, and some companies (here among London Mining) has completed profitability studies on the extraction of their investments. These include the exploitation of the so-called rare earths in southern Greenland, the extraction of iron by Godthåbsfjord, rubies south of Nuuk and zinc in northern Greenland\(^9\).

In a country with a workforce of 26,791 persons in 2011 among 18 to 64 year olds\(^10\) there is a possibility to enable a significant increase in well-paid employment in the community. It is considered unrealistic that the investment phase can be performed with predominantly local labor\(^11\), but it is central to the development of Greenland that the labour force during the operational phase is local as far as possible.

### 1.2 Problem Area

If a use of the natural resources should lead to a better economy with more people that are self-sufficient with a decent income, it is crucial to increase the supply of skilled labour in Greenland. In the short term, there is a great need to ensure that many more young people get started in a qualifying education and that the locals are involved right from the construction phase, so they can get the necessary know-how, which can be used for potential projects in future both in Greenland and abroad. It is therefore essential for Greenland to make substantial improvements in Greenlandic education system so that more Greenlanders get the primary education. The primary education will than provide them with skills and motivation to achieve qualified education. At the

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\(^7\) [http://www.ga.gl/LinkClick.aspx?fileticket=hVyo3hnrrJwg%3D&tabid=60&language=da-DK](http://www.ga.gl/LinkClick.aspx?fileticket=hVyo3hnrrJwg%3D&tabid=60&language=da-DK)


\(^9\) [http://www.business.dk/global/mineraljaeger-i-groenland-0](http://www.business.dk/global/mineraljaeger-i-groenland-0)


\(^11\) [http://sermitsiaq.ag/node/138563](http://sermitsiaq.ag/node/138563)
moment, there has been giving 81 exploration permits and 4 exploitation permits.\textsuperscript{12}

However, London Mining holds an exploration permit to an area 150 km from the Greenlandic capital Nuuk. Early August they handed in their application for an Exploitation permit for a Large Scale Mine, if approved it would be mentioned earlier, the biggest mining enterprise in Greenland. According to London Mining’s own estimates, the endeavour is set to require around 14 billion DKK of investment. It is expected to generate 35 billion DKK over 15 years in taxes alone. Translates to at least 49 billion DKK coming in and out of the Greenlandic economy over 15 years.\textsuperscript{13} That is 3,2 Billion DKK in average each year over 15 years. The mine is expected to create around 800 direct jobs and around 2-300 indirect jobs. Meaning around 1000 – 1100 new jobs.\textsuperscript{14} This illustrates the magnitude of the project compared to the country. This begs the question if the development happened in Greenland then their local workforce will able work in the mining industry by making themselves as qualified workforces for the mining industry?

The Economic Counsel commissioned by the Greenlandic Government in 2009 delivered its 3rd report in September 2012. They noted that even though the activities in the minerals and oil industry were at its highest in 2011, unemployment increased.\textsuperscript{15} It suggests that an increase in the economy does not necessarily benefit the people/citizens of Greenland. So, how can it best benefit the Greenlandic people and Greenland? The opposition party in Greenland “Siumut” says it is by implementing a royalty based system\textsuperscript{16}, others favour quick resolution to the unemployment situation. During the “Inerik 2012” conference Jens Jensen CEO of “KJ Greenland”, said that it was important to have Greenlandic companies in the early building of the mine, as to make sure the Know-how gained could stay in Greenland Brian Buus Pedersen CEO of the Greenland Employers association said that if no effort were done to secure the long-term benefit for the Greenlandic workers, the increase in economy would be “Empty

\textsuperscript{12} http://www.bmp.gl/minerals/current-licences (Updated on 1st and 16nd of every month, hence subject to change)
\textsuperscript{13} “ISUA Iron Ore Project” Aug.27.2012 – London Mining
\textsuperscript{14} Ibid
\textsuperscript{15} http://sermitsiaq.ag/node/135980
\textsuperscript{16} http://sermitsiaq.ag/node/117201
Calories”, as it would not benefit the people.

The Greenlandic Workers association and the Greenlandic Employers Association say that to ensure long-term benefits of the creation of the ISUA mine, the Greenlandic companies need to be involved from the start, to ensure that local know-how is created, and local companies tend to use local workforce, and it therefore also helps to prevent the rise of unemployment.

According to the Peirre Bourdieu’s theory of symbolic violence and social reproduction, it can be stated that symbolic violence creates pressure on the agent in a particular field for gaining more capital. In our case, the development of the mining industry will make a job field for the Greenlandic people. It means job opportunity will be more available for all the people of Greenland in comparison to the present condition. But the question is – will they be able to fulfil the requirement to receive the job opportunity which come from the mining industry? Because, as we know, the level of the education is not matching the qualification that the mining industry demanded. Will the Greenlandic educational system be able to supply the qualified workforce for the mining industry?

Symbolic violence concept also say that if there is pressure on some capital in a specific field then the agent on that field always trying to gain more of that capital to create the violence. So if the development of the mining industry occur in Greenland will the people of Greenland be more motivated to go for the higher education and expand their cultural capital to transform it to the economical capital?

The basic requirements for basic education and basic skills in the mining sector are almost identical to the requirements found in other industrial sectors. The requirements include a good public school education, good social skills and a good work culture. For work in mines it is required in addition to these basic assumptions also other basic skills. Firstly, there is required knowledge to work in mines and not least security procedures in connection with this work. Second, there will often be a need for knowledge of languages other than the Greenlandic language. Mining companies will normally be foreign, and the specially trained in the mine will also be recruited abroad. Therefore, it is often essential that all workers in the mine are fluent in English. Thirdly, a mine just like any other business needs, for example, cleaning, trade, catering, canteen etc.
Will Greenland with its approx. 56,000 people be ready for all the major demands, those will rise by the development of the mining industry and is there being done some chances so the Greenlandic people can supply the big demand the mining industry has to Greenland?
Finally, will the new mining industry resolve the low education level in Greenland in a positive way and are the Greenlandic people willing to take the qualifying education/course to work in the mining area if the educational system supply with such education/course?
All this facts has lead us to or problem formulation.

1.3. Problem formulation

How will the developing of mining industry affect the Greenlandic cultural capital?

1.3.1 Research Question:

1.3.1 Working question

Will there be a change in Greenlandic educational structure and peoples mind to take more education after developing the mining industry?
We will establish the state of the current Greenlandic mining industry, and learn its development. Then by establishing and analysing the strategy we will understand where the industry is going.
We will then analyse the existing educational structure so that the starting point is established. Then we will analyse the Greenland Governments strategy for education to so that we can establish where it is headed. Once this is has been establish we will be able to see if there will be any change in the educational structure.

1.3.2 Working question.

Will there be a shift in symbolic capital between cultural capital and economic capital?
To answer this question we will use Bourdieus concept of symbolic violence and social reproduction. We investigate how the rise of job possibility will affect the symbolic capital and will they be able to gain more knowledge. We will investigate people choice
of education in the current educational structure and their domination for the position in the society.

1.4 Project design:
This project is planned to render us with valid answers to our problem formulation and the research questions as well through the relationship between the developing mining industry and people's choice of education.

We are going to start with an introductory chapter, which consists of the problem area, problem formulation and with its respective research questions and an introduction as well. In the next chapter, we will start by defining the method of the project and our ontological position and epistemological approach. We will also discuss about our level of analysis. Then we will move to the theory chapter. We will discuss the ideas of Pierre Bourdieu- concepts of capital, field and habitus and more specifically the symbolic violence and social reproduction concept. We will also try to define Bourdieu's concept seek to define his concepts distinctly with the help of Richard Jenkins who is the writer of the book "Peire Bourdie" and we also use the help in our analysis chapter.

This theory chapter will be followed by a contextualization chapter where we discuss about our empirical document that we have collected in relation to the mining industry and Greenlandic educational system. And finally the analysing chapter which will be ended up by the placement of our conclusion. In the analysis chapter we try to answer our problem formulation and the research questions by combining our empirical data and knowledge that gained from the theory. And at the very end of the project, we will put our literature list.

CHAPTER TWO (Methodology)

2.1 Ontology
According to Allan Bryman and Emma Bell, social ontology is concerned with the nature of social entities. The central point of social ontology is, whether social entities (people, societies, culture, etc.) are social constructs or simply objective entities. The ontological standpoint of objectivism is, social entities should be considered as an objective entities that have a reality external to social actors and the ontological standpoint of constructionism is, social entities should be considered as a social constructions built up from the perception and action of social actor.\(^\text{17}\)

The group tends to follow the constructionism which argues that the social actor is delimited and formed by the conception of social actor. We conceive that social phenomena are continuously changing with time and by this it can also affect, restructure or change other social phenomena. As a researchers, we do not think pure objectivity never be able to be completely exempt to the influence obligatory by their surroundings. Therefore, our ontological approach is constructionism. We believe that social entity is constructed from or dependent on some external variable. It is mostly influenced by the demand or current condition of the external social phenomena.

### 2.2 Epistemology:

Epistemology is about how the people see knowledge and what is accepted as acknowledge sometimes it is understood as perception and forms of knowledge.\(^\text{18}\) In this research, interpretivism is our epestemiological approach. Our ontological approach is being constructionism and thinks that it is best fitted for the project. Because, according to Bryman, the contradictions between positivism and interpretivism are one of the most important issues and also said that people or social phenomena should be examined in the same way as objects. \(^\text{19}\)

The group believe that knowledge or psychological feature is subjective, it's mean that, group is researching and analysing the way to knowledge(forming and acknowledge

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\(^{17}\) A. Brymen & E. Bell, Business Research Methods, second edition, 2008, Oxford university press; p-22


\(^{19}\) Ibid, p-13
finding) and interpretivism purpose is understanding will be done through interpretation. This opposes the more natural scientific-based epistemologies where knowledge is formed through definitive, objective truths. Interpretivism also emphasizes the differences in how the investigated object is seen (Bryman 2008: 19).20

2.3 Research design:

The way in which the researchers collect his data while doing any social research is called research design and it is divided into five categories. Theses categories are the descriptions for the quantitative research.21 According to Bell and Bryman there are five type of research design:

1. Experimental design is design where the researcher makes two groups. One is an experimental group and other is a control group and then makes comparisons between these two groups. Only the experimental group will be examined and control group will be untested.
2. Survey research or structured observation is the main characteristic of cross-sectional design and the sample of the research should be one at a single point in time.
3. Longitudinal design is little different from the cross-sectional design, it implies research on a single sample but over a period of time.
4. When a researcher makes research on a unique case in order to reveal important characteristics about its nature is called Case study design.
5. Comparative design is differ from the case study by making comparison between two or more cases, e.g. a cross-cultural research.

In this project, we are going to work with the educational system in Greenland as a closed-group case study, which is characterized as “a research design that entails the

20 Ibid, p-19
21 Ibid, p-22
detailed and intensive analysis of a single case” (Bryman 2008: 691). This case could be understood in several ways. First option is to see Greenland as a case, as compared to other countries. Another option is to look at the present educational system of Greenland, as opposed to prior educational system. *This means that other forms and kinds of education, (when there is no hope for developing mining industry).* We have chosen the second option to keep the project perspective in mind.

We are always conscious about that this focus will keep the validity of our research. To understand, how the Greenlandic educational system has built up, an explanation of educational system will be given in the contextualization chapter. And later we will analyse which consideration Greenlanders are having when they are taking education.

### 2.4 Leveled analysis:

We would like to start this by quoting one statement of Thomas Brante:

“An individual does not exist in a vacuum but is to a great extent a product of the social (the cultural included). Attitudes, intentions, dispositions, habitus, and so forth” (Brante, 2000: 18).

From this position, Thomas Brante put importance on a specific methodological approach when doing social science work. Brante proposed that it is important for social science work to structure its focus into three levels, i.e. a macro, meso and micro level. By following the Brante proposal, in our project analysis, we have structured our framework of analysis into three categories. Here we will shortly describe three level and its implication in our project structure.

In the contextualisation chapter in our project, we will focus our attention on overlying level of analysis that means a macro level analysis. Here we will discuss about the shift of the structure of the educational system of Greenland. When we thinking of “the level of interest”, we will focus on the shift of the educational structure of Greenland by doing a meso level analysis. Here we always keep in mind meso level and macro level analysis is strongly related to each other. Finally in the ‘underlying level’, we will direct our focus

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22 Ibid, p-691
to more specific and individual perspective to the micro level analysis and focus will be on narratives of the people who are influenced by the structure of the meso level.

3. CHAPTER THREE (Theory)

3.1 Introduction:

Social life is made up of an infinite number of interactions (meetings, exchanges, discussions, conflicts, labor relations, power relations, ...) which are all very precisely localized in time and space. Many sociologists such as Marx, Weber or Durkheim studied these social facts and explained each social life according to his own vision. But from the mid-60s, Pierre Bourdieu, French ethnologist and sociologist drawing on concepts and approaches of his predecessors, offers a different perspective of social reality.

Indeed, Pierre Bourdieu (1930-2002) is the author of many works on subjects high variety in which he develops a new description of the company with different concepts such as habitus, field, symbolic capital and symbolic violence and reproduction.

3.2 Capital resources:

the concept "capital", according to Bourdieu, is used for measuring the agent's value. In his sociology he talked about four types of capital. These are given below-

- Economic capital: made by the possession of economic goods and different factors of production.
- Cultural capital: the sum of all knowledge and skills intellectual, which allow

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agents to carry themselves socially.

- Social capital: that is the set of social relationships or network available to the individual or group.
- Symbolic capital: can be defined as the credit and authority conferred an agent recognition and ownership of three different forms of capital. There is only by the esteem, recognition, belief, credit, trust others, and it cannot be sustained as long as he manages to get the belief in its existence.26

“struggles for recognition are a fundamental dimension of social life and that what is at stake in them is an accumulation of a particular form of capital, honour in the sense of reputation and prestige, and that there is, therefore, a specific logic behind the accumulation of symbolic capital.” (Bourdieu 1984:129)

According to Bourdieu, this four kind of capital implicitly measured, used and perceived by agents. And this will happen within the inter-relater fields and each field has their own criteria of measuring the importance of these capitals. Bourdieu said, capital is used in order to maximize the capital, which counts in a specific field. He also said-

"the field of power determines the relative value of different kinds of capital(for instance, the rate of exchange between cultural and economic capital)" (bourdieu 1994,p56)

3.3 Fields :

Field "a social space where players compete with other players for control of scarce goods and these goods are just different forms of capital".27 It’s a small world in which society operates independently and has its own laws, codes, and rules. Each field both the field of forces and struggles marked by an unequal distribution of resources and a constant struggle between individuals or groups, in order to stand out, win recognition or dominance. According to Bourdieu, the structure of a field correspond to the

distribution of capital whose possession enhance the chances of appropriating the
capital which forms the stake in the field. He also said, within the fields, social positions
are internally structured in term of power relation. It depends on the access to the
capital, which are stakes in the field. Bourdieu explained in his book "the logic of practice" "A field is, by definition, ‘a field of struggles’ in which agents’ strategies are concerned with the preservation or improvement of their positions with respect to the
defining capital of the field". From the above quotations, we can say that stakes are the
notion of fields that is comparable to the player of the game. In the game, player always
trying to keep the control of the game and win the game. Thus agents are struggling to
have the stakes and dominate other or keep their domination over the dominated. That’s
why, agent oppose each other only to the degree that they agree on the game and it’s stake

3.4 Habitus:
The position of each individual in the social space determines a coherent practices,
values and tastes defined by the term habitus that Bourdieu defined as "a system of
durable and transposable disposition, structured structures predisposed to function as
structuring structures, that is, as principles which generate and organize practices and
representations that can be objectively adapted to their goals without presupposing
conscious aiming for express and control operations needed to achieve objectively
"regulated" and "regular" without in any way the product of obedience to rules, and,
being all this, collectively orchestrated without being the product of the organizing
action of a conductor". In other words, the habitus is product became unconscious learning resulting in a
capability apparently natural to move freely in an environment. It is the link between
social position and capital. Habitus varies -field to field and agent to agent and it can be
obtained through the continuous response to the rules that given the field. According to
Bourdieu, habitus is not only incorporated consciously but also embodied in the agent,
reflected in their activity. When the agent’s habitus find the objective structure natural

or regular then they reached in the 'doxic' state. Doxa means universal value or belief. Doxa benefited the dominant agent by keeping their position untouched or unquestioned. So we can say now, in one-way habitus is a product of the field and habitus can produce field as well. Bourdieu also explain habitus in his book "outline of theory of practice".

“an acquired system of generative schemes objectively adjusted to the particular conditions in which it is constituted.”  

3.5 Symbolic violence:

Firstly I would like to introduce symbolic violence; symbolic violence is used to understand the system of power relation and sense relation between groups or classes when the society formed. According to Bourdieu,

"symbolic violence is the imposition of system of symbolism and meaning (i.e. Culture) upon groups or classes in such a way that they are experienced as a legitimate. This legitimacy obscures the power relations which permit that imposition to be successful."  

From this quotation we can say, the imposition of culture is understood as a symbol to differentiate the social classes or groups and has to be acknowledged as being legitimate for it to execute it's goal. The notion of symbolic violence refers to internalization by agents of social domination inherent in the position they occupy in a given field and more generally their social position. This violence is sub-conscious and does not rely on an inter-subjective domination (of a person over another) but on a structural domination (a position according to another). This structure, which is a function of the capital owned by the agents, is violence because agents do not perceive it. It is therefore a source of inferiority or insignificance is not only experienced as objectified. This symbolic violence can be related to a sociological conceptualization even if you cannot

ask equivalence between these two notions and not an identity (the theoretical foundations are very different).

Now we would like to discuss about the exercise of the symbolic violence. Symbolic violence is a pedagogic action (imposition of a cultural arbitrary) and it has three modes: diffuse education, family education, and institutional education. Richard Jenkins in his book "Peirre Bourdieu" explain these three modes- "Diffusion education, which occur in the course of interaction with competent members of the social formation in question (an example might be the informal peer group), family education, which speaks for itself, and institutionalised education (example of which might be age-set initiation rituals, on the one hand or school, on the other hand)". These are all pedagogic action- teaching system, which is enforced consciously and unconsciously through the educational system. Here we would like to clarify the institutional education more- it is the cultural enforced that individuals or groups receive through all level of education and it is imposed by the structure of the educational system. At this point we have to keep in mind that pedagogic action only be successful when there is pedagogic authority (an arbitrary power to act). Because, this authority makes the action legitimate. And this legitimacy allows the pedagogic action to work. Jenkins also stated about the pedagogic authority and legitimacy in his book 'Peirre Bourdieu'- "pedagogic authority is so fundamental that it is often implicitly or explicitly identified with the natural or primordial relationship between parent and child. Although technical competence may be an aspect of the explicit claim to educational legitimacy, it is actually a matter of institutional authority." 

According to Bourdieu, pedagogic authority is not homogeneous within or between al groups and classes. It means that differing success of pedagogic action depends on the different 'pedagogic ethos'. Pedagogic ethos is 'the prophet always preaches to the converted'. It means that- if something is taught in the class, student, who has believe in that will be more benefitted than the other who don't have. Jenkins also said "pedagogic authority can be more legitimate when the sanctions which it has at its disposal are

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confirmed, for a given collectivity, by the marked in which the value of the product of the pedagogic action concerned is determined”.36 We are clarifying this by giving on example: if the people can see there is a huge unemployment in the labour market then they might be discouraged automatically because after finishing their education, it will be very difficult to find a job. Thus, this unemployment put the legitimacy of pedagogic authority under pressure. Symbolic violence is rooted in the legitimacy of classifying patterns inherent in the hierarchy of social groups.

3.6 Social Reproduction:

Reproduction of the social order goes to Bourdieu, both through the reproduction of social hierarchies and legitimacy of such reproduction. Bourdieu believes that the education system plays an important role in the reproduction within contemporary societies. Bourdieu develops a theory and system of education, which aims to show:
1. it renews the social order, leading the children of members of the ruling class to get the best for their school diplomas and, in turn occupy the dominant social positions,
2. it legitimizes this school ranking individuals, disguising his social origin and making him the contrary, the result of the innate qualities of individuals, according to the "ideology of the gift."

Reproduction in Pierre Bourdieu, an endeavour to show that the education system has a "power of symbolic violence," which helps to give legitimacy to report force behind social hierarchies. Bourdieu believes first of all, the educational system transmits knowledge that are close to those found in the ruling class. Thus, children of the ruling class have a cultural capital that allows them to adapt more easily to educational requirements and, therefore, more successful in their studies. That, for Bourdieu, allows the legitimation of social reproduction. The cause of the achievement of the members of the ruling class remains in effect masked while their accession, with their diplomas,

dominant social position is legitimized by the diplomas. In other words, for Bourdieu, masking the fact that members of the ruling class to succeed in school because of the proximity between their culture and the educational system, the school enables the legitimation of social reproduction. This process of legitimation is, for Bourdieu, maintained by two fundamental beliefs. On the one hand, the school is considered neutral and knowledge as fully independent. The school is not perceived as arbitrary instilling a culture similar to that of the bourgeoisie - which makes its rankings legitimate. On the other hand, the failure or success in school is more often regarded as "gifts" referring to the nature of individuals. School failure, fundamentally social process, will be understood by one who suffers as a personal failure, referring to its shortcomings (such as his lack of intelligence, for example). This "ideology of the gift" play, for Bourdieu, a role in the acceptance by individuals of their own fate and destiny school ensuing social.
4. CHAPTER FOUR (Contextualization)

4.1 The Greenland Government view on mining
In this section the current state of the mining industry will be outlined and the job possibilities in the mining industry, then the governments view on mining will be explained. The purpose of the chapter is to introduce the reader to the mining industry in Greenland and what the political aim for the mining industry is, as this will be used to analyse the legitimacy of the education system.

4.2 Current state of Mining in Greenland
The deputy minister Jørn Skov Nielsen of the Ministry of Industry and Mineral Resources said as the keynote speaker at the “Oil, gas and mineral taxation” conference at PriceWaterCoopers that active and applied mineral licences have 6-doubled since 200237.
Ove Karl Berthelsen, Minister for Industry and Mineral Resources, said that the activities for 2011 and early 2012 have been satisfactory38.
In numbers:
Figure 1: Development of number of licenses from 1999 to 2009

37 Keynote address
The figure shows that the number of exploration and exploitation licences have been increasing since 2002, and it continues to do so, as the below table will show.

Table 1 – Mineral Licences.

<table>
<thead>
<tr>
<th>As per 1 December 2012, the following licences had been applied for, or granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary investigations</td>
</tr>
<tr>
<td>Exploration licences</td>
</tr>
<tr>
<td>Exploitation licences</td>
</tr>
<tr>
<td>Small-scale licences (with and without exclusive rights)</td>
</tr>
<tr>
<td>Pending applications</td>
</tr>
<tr>
<td><strong>Licences in total</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>82</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>139</td>
</tr>
</tbody>
</table>


The table shows that most of the projects are in the exploration phase, however there are 4 exploitation licences. From the above table and figure, we can say that definitely Greenland has a very prominent future in the mining industry and it will contribute a lot in the growth of their whole economy. The table shows that 82 projects are in the exploration phase and 20 pending application, however there are 4 exploitation licences. When the entire projects will get the exploitation licences, there will create a huge job field for the Greenlanders.

Now we will look at the status of those projects, which got the exploitation licences to understand how much time the projects will take to go for the production and how long they will be able to keep themselves in the production. Through this finding, it will be understandable that how long the workers can work in the mining projects.

The status of the exploitation licences is illustrated in Table 2:

Table 2 – Overview of the exploitation licences.
From the above table we can say that even though there are 4 active exploitation licences only one mine is in production. That is the Nalunaq Gold Mine and it has created only 60-80 positions in the job field and they only can work for 2 years. So we can say that the Greenlandic people have not been experienced much about development of the mining industry the reason behind this is, only one project were able to go for production and it is small scale project.

In addition to the active mines in table 2, these projects are expected to become active exploitation mines within 1 to 5 years:

Table 3 – Projects most progressed

<table>
<thead>
<tr>
<th>Project</th>
<th>Geographic location</th>
<th>Expected application for exploitation licence</th>
<th>Expected employment (in production)</th>
<th>Expected employment (construction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eudialyte / Rare earth elements</td>
<td>Killavaat Alangguat (Kringlerne) – between Narsaq and Qaqortoq</td>
<td>2012</td>
<td>60-80</td>
<td>About 100</td>
</tr>
<tr>
<td>Ruby/sapphire</td>
<td>Qeqertarsuatsiaat/ (Fiskensæset)</td>
<td>2012</td>
<td>50</td>
<td>About 80</td>
</tr>
<tr>
<td>Iron</td>
<td>Isukasia (Isua) – north of Nuuk</td>
<td>2012</td>
<td>700</td>
<td>About 2,100</td>
</tr>
<tr>
<td>Zinc / lead</td>
<td>Citronen Fjord - North Greenland</td>
<td>2012</td>
<td>200-300</td>
<td>-</td>
</tr>
<tr>
<td>Rare earth elements</td>
<td>Kuannersuit (Kvanejfeld) - Narsaq</td>
<td>2012</td>
<td>700</td>
<td>About 2,000</td>
</tr>
</tbody>
</table>
As we know that till today Greenlandic have not experienced the effect of developing of the mining industry (as we stated earlier section in this chapter) but their will be change in their experience in the near future because if we look at the table-3, it would be much more clear. Table 3 says, there will be open 5 large-scale mining project at the end of the year 2012 And London mining is one of them. Only the London mining will be able to create a job field for about 2100 workers in the construction period and when it goes for the production then it will still able to make position for 700 workers. If we accumulate all the five project together then they will be able to create field for almost 4200 workers (this table has failed to give any number for the zinc/lead project) and in the production period more than 1700.

4.3 Job opportunities in the mining industry
The Bureau of Mineral and Petroleum published an information pamphlet about the business possibilities in the mining industry.
They had identified 5 different stages of a mine, and the opportunities of each stage. 39
- Prospecting
- Exploration
- Construction
- Production
- Abandonment

Each stage has a time horizon of different length as shown in the figure 1 below:

Figure 1: Overview of length of each stage.

“Erhvervsmuligheder i råstofsektoren – Mineraler ” Råstofdirektoratet, march 2009 p.10

Explanation: At least 10 years with prospecting and exploration, between 1 and 3 years for construction, between 5 to 100 year for production abandonment up to 3 years. This

39 “Erhvervsmuligheder i råstofsektoren – Mineraler ” Råstofdirektoratet, march 2009
data is saying that these projects can hold their employees for a longer period of time if compare these to the gold project. So workers can work for a long period of once they have employed. We are presenting here another figure through which we can understand the structure of employee they need-

Figure 2: An example of the employee structure in the mining industry.

From the above figure, we can state that the mining industry, which is going to develop in the Greenland, needs only 9-16 % per cent higher educated workers. So it is clear now if somebody want to work in the mining project they do not have to have a the higher education. Without the higher education people can be employed in the mining industry.

The significant number of worker they need is in the construction and extraction sector which 33 per cent of their whole workforce’s need. And transportation and material moving sector are in the second position, which score 25 per cent. So, it is very obvious now that the qualification of the workers demanded by the mining industry is not the higher education but vocational or some other types of education which is related to the construction and transportation.

4.4 What is the government doing to prepare for the Mining industry?
In this section the Mineral Strategy and the Greenland Governments wish for the mineral industry will be outlined.
4.4.1 Mineral Strategy

"Naalakkersuisut wishes to develop the extraction- and large scale sector to become a well-established profession, that will contribute significantly to make Greenland more economically self-bearing. “40 (Freely translated)

The statement continues to say that it is the hope to have between 5 and 10 active mines, and at least two of them to be considered “large scale”. Before a project can be considered at large scale it needs to have a construction cost (capex 41) of at least 5 billion DKK. 42

The mineral strategy’s objectives are:

• Greenland will be recognized as an attractive exploration area
• A reasonable proportion of the profits generated by the extraction should be ensured for society
• Licence terms must be reasonable for both small and large companies, robust to fluctuating economic trends and easy to administer for companies and authorities.
• It must be possible to implement the strategy within the framework of a new mineral agreement between Greenland and Denmark


The current Mineral Strategy is focused on the first objective, as the strategy mostly describes what is going to be done to create and maintain a high level of exploration. More precisely, the strategy focuses on the geological mapping of Greenland and the marketing of these geological prospects with the aim to have companies come to Greenland for exploration.

“The overall objective...is to enhance the level of specific knowledge of attractive geological environment...and through marketing of the knowledge encourage the mineral industry...”

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41 Capital Expenditure
42 Large Scale Act of 2012, passed 7/12/12 (version of 5th December 2012), §6, section 1
The formation of the Large Scale Act has been based on two potential large-scale projects in the pipelines:

- Alcoa Aluminium Smelter (capex approx. 20 billion DKK)\(^\text{43}\)
- London Mining Iron Ore (capex approx. 14 billion DKK)\(^\text{44}\)

When the Minister of Industry and Mineral Resources presented the Large Scale Act proposal to the Parliament he made clear that the motivation of the Act was to attract investments for large-scale projects.\(^\text{45}\)

The Bureau of Minerals advertises that they are one-door contact point. Meaning that investors or industry representatives only have to contact one Greenlandic authority when they apply for exploration/exploitation or whenever they have any questions.\(^\text{46}\)

\(^{43}\) [Link to Alcoa Aluminium Smelter]
\(^{44}\) "Social Impact Assessment – London Mining 2012"
\(^{45}\) [Link to Mineral Strategy 2009 Greenland Government]
4.5 The Greenlandic educational system

In this section the Greenlandic education system will be described and the state of the education system will be explained, lastly the strategy will be outlined with focus on the vocational education system. The purpose of this section is to give the reader an understanding of the Greenlandic education system and the state of it, and then the strategy will be analysed in relation to the mineral industry.

4.5.1 Introduction to the Educational system – the facts

4.5.1.1 ‘Folkeskolen’ – Elementary School

10 years of Elementary school is compulsory in Greenland. From age 6 to 16 each child in Greenland must receive teaching in 10 years. The primary school is divided into three steps:

1. 3 years for the youngest children
2. 4 years for the middle children
3. 3 years for the oldest children

After each of the first two steps, each child is tested to see if they have learned what they are supposed to learn, and after the last step they go through final exams and receive their diploma. 47 Elementary school cannot be failed, meaning that regardless of how low the grades may be, the children will receive a diploma. 48 After elementary school there are two possibilities for further educations. These will be presented below.

4.5.1.2 ‘Erhvervsuddannelse’ – Vocational education

A vocational educational is an education that alternates between internship and school. It is usually between 2-5 years in length. Some educations are taken only in Greenland, while others have one or more school stays in Denmark. To be accepted at a vocational

47 http://www.sunngu.gl/folkeskolen
48 ”Økonomisk Råds Rapport 2010” p.99
education, one needs an acceptance from the vocational school and a trainee/internship place.\textsuperscript{49}

There are between 80-90 vocational educations that are available, however some have all the school stays in Denmark, but it is possible to take the internship in Greenland.\textsuperscript{50}

The vocational educations in Greenland are offered in these schools:

- The Iron and Metal School (Nuuk)
- Building and Constructions School (Sisimiut)
- Commercial Schools (Nuuk and Qaqortoq)
- The Hotel and Restaurant School (Narsaq)
- Skippers School (Paamiut)
- The School for Hunting and Fisheries (Uummannaq)
- The Social Workers School (Ilulissat)
- The Greenland School of Minerals and Petroleum (Sisimiut)
- The Design School (Sisimiut)
- The School for Health Educations (Nuuk)

\"Report on the Government of Greenland's Education Strategy\" p.26,

When one graduates a vocational education, one will be qualified for employment as a skilled labour.\textsuperscript{51} The vocational schools also offer courses and re-training programmes to qualify and re-qualify the uneducated and educated.\textsuperscript{52}

\textbf{4.5.1.3 ‘Studieforberedende’ – Preparation for higher education (High School)}

\textquote{Studieforberedende} is a three-year academic education that aims to prepare the students to be able to go to higher education. The education language is Danish.

It is available in 4 cities:

\textsuperscript{49} \url{http://www.sunngu.gl/erhvervsuddannelse}
\textsuperscript{50} \url{http://www.sunngu.gl/erhvervsuddannelse/erhvervsuddannelseskatalog}
\textsuperscript{51} \"Report on the Government of Greenland's Education Strategy\" p.26,
\textsuperscript{52} Ibid p.29
1. Qaqortoq (Trade focus)
2. Nuuk (General focus)
3. Sisimiut (Technical focus)
4. Aasiaat (General focus)

All focus’ gives access to all higher education in Greenland and Denmark. However, some educations may require additional qualifications that can be taken in Greenland or Denmark, before a student can be accepted in University.

4.5.1.4 'Videregående' – Higher education

The higher educations are the educations that are can be applied to after the three-year preparation. Below is an overview of the available higher educations in Greenland.

1. Short higher education (KVU)
   a. AP degrees in different specialities in Nuuk Trade School
   b. Process technician in The Hotel and Restaurant School (Narsaq)
   c. AP degree in Service management in Qaqortoq Trade School

2. Middle long higher education (Bachelors)
   a. Profession Bachelors in Journalism, Teaching, Social works and Nursing
   b. Bachelors in Social Science, Arctic Technology, Culture and Modern history, Language, Literature and Media, and finally Theology

3. Long higher education (Masters)

All except Social Works and Arctic Technology are studied at the Greenland University. Social Works is studied in Social Workers School in Ilulissat and Arctic Technology at the Centre for Arctic Technology in Sisimiut.
All available educations that are approved to the Student Grant (SU) can be applied to in Denmark, and when one wishes to read more on these educations, one is referred to the Danish educations site: www.ug.dk

4.6 The state of the education system

4.6.1 Introduction

The current Greenlandic education has been discussed in two main reports from the Greenland Government.

- “Vores Velstand og velfærd – kræver handling nu” by Skatte- og Velfærdskommissionen (Tax – and Welfare commission) 2011

The Tax- and Welfare commission was established by the current government parties to make suggestions to initiatives for general betterment of the citizen’s welfare, especially among the least fortunate.

- “Økonomisk Råds rapport 2011” by Økonomisk Råd (Economic counsel) 2011

The Economic Counsel was established by Naalakkersuisut in 2009, and is tasked with monitoring the economic development and the validity of the financial policy.

Based on their recommendations the Greenlandic government has made strategies to help them reach their goals. The mineral strategy is discussed above, and the education strategy is discussed later in this section.

This section will discuss the state of the education system.

4.6.2 The state of the education system

The current economic state of Greenland will result in a stagnation of wealth and decrease in welfare.

57 dk.nanog.gl/svk
“Lack of educated workers is also seen as an obstacle to the continued rapid economic growth...”\textsuperscript{59}

The government hopes that more than 50% of the workforce in the extraction industry is local workforce.\textsuperscript{60} The Economic Councils report of 2010 estimates that between 40-50 % of the available Greenlandic workforce has no competence-giving education.\textsuperscript{61}

Another issue raised by the Economic Council is that the public schools are having trouble in giving the students good Danish and English abilities. This is especially a problem, as the main teaching language in vocational and high school/higher educations is Danish and English.\textsuperscript{62} There is a difference between the language skills depending on where the students are from. The students from the cities get on average better text scores, than those that come from the villages.\textsuperscript{63}

These challenges exists, even though the money spent on education is 20% of all government spending.\textsuperscript{64}

The average age of when competence-giving education is initiated is 25, and for end of education the average age is 30. This is problematic, as it indicate late start on education and delays during education, both considered problematic, as the value of the education is greater the longer it is used.\textsuperscript{65}

From 2005 to 2009 on average 289 people finished a vocational education, 106 with a short higher education and 57 with a long higher education, and the size of the classes leaving the primary schools in the coming years are around 900 each year.\textsuperscript{66}

Table 4: The dispersal of the population over 16 years in Greenland, on level of education from 2002 to 2011 in percentage.

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\textsuperscript{59} "Leading issues in economic development", Gerald Meier – James Rauch 2005, p. 187
\textsuperscript{60} "Vores fremtid – dit og mit ansvar – vejen til 2025" Naalakkersuisut, Greenland of Government 2012 p.22
\textsuperscript{61} "Økonomisk Råds Rapport 2010" p.95
\textsuperscript{62} Ibid p.21
\textsuperscript{63} Ibid p.105
\textsuperscript{64} "Vores velstand og velfærd kræver handling nu" Skatte og Velfærdskommissionen, Marts 2011, p.100
\textsuperscript{65} "Vores velstand og velfærd kræver handling nu" Skatte og Velfærdskommissionen, Marts 2011, p.105
\textsuperscript{66} Ibid p. 107
The dark blue pillar is the percentage of the population that only has an Elementary School education, the light blue pillar is the percentage of the population that has a vocational and/or high school, the purple pillar is the percentage of the population that bachelors and/or masters degree. From the table above we can conclude that number of the people who has elementary education is decreasing gradually and this people are entering either into the vocational and/or high school group or into the bachelor and or masters degree group. It has clearly seen that there has a tendency for taking higher education. Somehow they are motivation to take higher education. May be it’s the pressure of the current demand of the job field or there will be created a future demand of the skilled workforce. We will discuss about this in the analysis chapter.

In June 2010, 799 people had applied for vocational education, only 511 were enrolled in September 2010, and one of the reasons were housing, as stated above, the other is the lack of trainee/internships places.  

\[67\] Ibid
Overview 1

Expenses on Qualifying Educations and Vocational Educations

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating and construction costs, total</td>
<td>419,0</td>
<td>464,8</td>
<td>517,5</td>
<td>545,7</td>
<td>539,2</td>
<td>569,0</td>
<td>646,4</td>
</tr>
<tr>
<td>Construction costs</td>
<td>5,2</td>
<td>32,9</td>
<td>60,6</td>
<td>75,6</td>
<td>33,6</td>
<td>31,2</td>
<td>55,3</td>
</tr>
<tr>
<td>Operating expenses, total</td>
<td>413,8</td>
<td>431,9</td>
<td>456,9</td>
<td>470,2</td>
<td>505,5</td>
<td>537,8</td>
<td>591,1</td>
</tr>
<tr>
<td>1 Vocational schools</td>
<td>148,4</td>
<td>151,8</td>
<td>142,4</td>
<td>150,5</td>
<td>154,6</td>
<td>148,6</td>
<td>181,4</td>
</tr>
<tr>
<td>2 Continuing education</td>
<td>20,0</td>
<td>25,0</td>
<td>25,0</td>
<td>25,0</td>
<td>26,3</td>
<td>27,7</td>
<td>28,5</td>
</tr>
<tr>
<td>3 Further and higher education</td>
<td>1)</td>
<td>78,1</td>
<td>81,7</td>
<td>89,5</td>
<td>90,3</td>
<td>100,2</td>
<td>107,0</td>
</tr>
<tr>
<td>4 Student lodging</td>
<td>11,7</td>
<td>13,8</td>
<td>13,2</td>
<td>13,2</td>
<td>14,4</td>
<td>19,3</td>
<td>19,3</td>
</tr>
<tr>
<td>5 Student grants</td>
<td>155,6</td>
<td>159,6</td>
<td>186,7</td>
<td>191,1</td>
<td>210,0</td>
<td>235,3</td>
<td>240,2</td>
</tr>
</tbody>
</table>

Note: Budget figures for 2009 and 2010

Notes: 1) Includes the teachers’ training college of Greenland, the University of Greenland, folk high schools, the Art School, the Centre for Health Educations, the School of Journalism, the Language Centre at Sisimiut, PhD studies and the social worker education (ISI).

Source: Accounts of the exchequer and KANUKOKA


The above overview shows the investment done by the government on qualifying and vocational education, and how it has increased.

4.7 What is the government doing to prepare for the Mining industry? – Education Strategy

4.7.1 Introduction
Figure 1 shows that around 60% of the jobs in the mining industry are construction type jobs.

So for this part of the contextualization the focus will be on the vocational education, as this is what creates skilled workforce.

4.7.2 The strategy
Under the headline “Education for the future – Education for all” the Minister of Education, Research and Nordic Cooperation introduces the Governments (Naalakkersuisuts) strategy for education.

The overall strategy of the government stated that the main goal of the strategy is that by 2025 70% of each class/year will have a competence giving education. 68

68 “Vores Velstand og velfær – kræver handling nu” Tax- and Welfare commission 2011
Qualifying meaning competence giving.

Nine major landmarks has been established for the overall strategy:

1. Education cannot stand alone
   a. Education must be developed together with all relevant parts of society

2. Support for a trilingual education system and society
   a. To ensure that everyone can act internationally, minimum language requirements are: Greenlandic, Danish, English

3. High quality education is an indispensable requirement
   a. Citizens must also be attractive, not only competent.

4. Society must ensure every child a chance of getting a qualifying education
   a. “The interests of the child and the child’s development opportunities should outweigh the interest of the parents”

5. E-learning from childhood
   a. IT and E-learning should be become a natural and integral part of the citizen’s lives.

6. Education with a global outlook
   a. All education should be international and have the option of a stay abroad.

7. Lifelong Learning and demand-driven continuing education
   a. The labour-force should have the opportunity to retrain or upgrade their skills according to the demands of the business

8. Education in step with business developments
   a. As a result of significantly increase of future projects in the mining industry, it is the Greenlandic government ambition to retrain and upgrade the Greenlandic labour so the maximum jobs are occupied by local workforce.

9. Resources must be used optimally and all areas must be continuously be efficacy assessed
   a. Monitoring and take action to become efficient.


The reports says this about the what the purpose of the strategy is:
“The Education Strategy describes the Government of Greenland’s vision, goals and prioritised efforts in relation to education.”

The vision for the vocational education have also been outlined:

“The vocational education training programme will prepare the young people to seek and take up skilled employment”.  

As part of the strategy of achieving these goals these concrete initiatives will be started:

• Improved guidance and increased cohesiveness
• Creation of more apprenticeships and reduction of dropouts
• Rationalisation and capacity expansion
• New and improved framework for management.
• Creation of new education centres

The above bullet-points and the below explanation are all based on this source:
“Report on the Government of Greenland’s Education Strategy” p.27

In the same order of the bullet-points, the explanations are as follows:

4.7.2.1 Improved guidance and increased cohesiveness
The government will create common guidance and pedagogical principles, so the citizens receive a coherent counselling from early childhood through the entire education system.

4.7.2.2 Creation of more apprenticeships and reduction of dropouts
The government will increase the number of people in training/education by building more dormitories, to ensure that everyone has a place to live while training/interning, as shortage of housing is considered one of the major issues. They will also restructure the education themselves, so that it becomes possible for students to share an internship placement.

The government have also a Executive order that requires companies that will build for the Greenlandic government to have apprenticeship hours, and these hours can be

69 “Report on the Government of Greenland’s Education Strategy” p. 27
70 Ibid p.9
71 "Vores Velstand og velfærd – kræver handling nu” Tax- and Welfare commission 2011 p.105
spend by having an apprentice/interns/trainee or by buying out at a fixed price. However, this only affects companies that will build for the companies, and as the government will not be building any mines, it is not relevant for our purpose. 72

4.7.2.3 Rationalisation and capacity expansion
The government will investigate way of rationalization, by finding a way to move Iron and Metal School to Sisimiut from Nuuk. Sisimiut already has the Building and Constructions School and The Greenland School of Mining and Petroleum, and these would have their capacities expanded by building more classrooms, a cool hall and other expansions needed.
A 1 year vocational training courses will be established at the current school in Nuuk, which has the aim of giving students a some specific skills that will allow them to search a job directly, at the same time been able to transfer credits if they should choose to choose a full vocational education.

4.7.2.4 New and improved framework for demand management
As of 1 January 2012 the vocational schools were transferred to be autonomous public institutions, with industry representatives from the relevant industry in their boards, to ensure that the distance from the school to industry is shorter, and thus able to communicate their needs to the school.

4.7.2.5 New education centres
The government will create a Centre for Art and Design in Nuuk that will be education centre for Visual Arts, Handicrafts, Design, Film, Music, Theatre and Dance.
The government will merge the Skipper School in Paamiut and the School of Hunting and Fisheries in Uummannaq to a Centre for Maritime Education in Nuuk and Sisimiut.

4.7.3 The expected effects of the strategy.
“The strengthening of the academic environments will enhance the success rates and level of skills among students. While creating economies of scale so the average cost per student will drop.

New education programmes are established swiftly and in relation to the employers’ needs, so labour supply is continuously adapted to labour market demand.\textsuperscript{73}

5. CHAPTER FIVE (ANALYSIS)

5.1 Interpretation of data

5.1.1 The mineral industry in Greenland:

As of December 1\textsuperscript{st} 2012 there were 139 mining licences granted or pending approval both for exploration and exploitation. From this statement we can say this there is tend to develop the mining industry in Greenland. Many foreign are ready to invest on mining in Greenland. Though there is only exist 4 exploitation licences, however only the gold mine is in production with only 60-80 employees, which is a relative small, but big and large-scale mining projects are waiting for the exploitation. One of them is London Mining who received their exploitation licence from the Greenland government and it will able to employ 2 100 people in the construction period, more than 700 people in the period of production and they will be able to carry on their production at least 100 year from the day they will start their production. So the fact is, Greenland does not have established mining industry but the mining industry will be the future of Greenland.

5.1.2 The education system in Greenland

There is a 10-year compulsory elementary education from age 6 to 16 in Greenland. Then there are two ways for further education. One is Vocational education, which trains the students to have skills that qualify them for a job. Vocational educated can receive retraining and/or courses to qualify for new industry jobs. We can say this the students who have the vocational education, they are ready to go to the job field for seeking their education related job.

\textsuperscript{73} “Report on the Government of Greenland’s Education Strategy” p. 30
The other one is High School, which prepares the students to be able to take a higher education. The student, who will able to finish his High school education, can study at the university in Greenland or in universities in Denmark. (However universities in Denmark may require additional qualifications before accepting students.). So the student who finish their high school education they are not ready to job field but they will be qualified for taking the higher education. They have wait longer than the vocational student to go for seeking job.

5.1.3 Level of education

Table 4 shows that from 2002 to 2011 the level of education of the population over the age of 16 in Greenland has been steadily increasing. The percentage of the population with only an elementary school diploma was 71,9 % in 2002, and that had decreased in 2011 by 5,1 % -points to 66,8 %, meaning that the percentage of the population with more than an elementary school diploma has increased by 5,1 %-points, 3,2 %-points increase in vocational education and high school and 2 %-points increase in Bachelors/Masters education. There has been a bigger increase in vocational education and high school than in Bachelors/Masters education.

5.1.4 State of the education system

The language skills of the students that leave elementary school are not good enough for further education, and therefore hinder further education, as the main teaching languages are Danish and English.

The next two issues are interconnected, as they both concern vocational education. One is that some students do not start education because they have been unsuccessful in finding an internship/trainee place, and the other is that they have been unsuccessful in finding housing.

5.2.1 Introduction

In this section we will analyse the education strategy in relation to the mining industry. Whether or not the expected results of the education strategy, will help reach the government's goal of having at least 50% of the workforce be local in the mining industry by 2025. This is in conjunction with the goal of having at least 70% of the population to have a competence-giving education (qualifying).

Since about 60% of the jobs in the mining industry are construction type work, the analysis will focus on vocational training.

Bourdieu's concept of Symbolic Violence and Legitimacy will be utilized to analyse this, if the Government's approach takes into account the Legitimacy of the Field of mining.

5.2.2 The Analysis

The mineral strategy is focusing on securing mines to come, and the Bureau of Mineral and Petroleum is working under the assumption that large-scale mines are just a question of time, as evidenced by the passing of the Large-Scale Act. The Naalakkersuisuts vision for 2025 is working towards a certainty of 5 to 10 active mines with two of them being large scale mines, and states that it is should contribute significantly to ensure a economically self-bearing Greenland. So both in the mineral strategy and the vision for 2025, the symbolic capital of the politicians are being used to dominate the field of the mining industry, encouraging foreign investment to invest in Greenland, and working towards an effective bureaucracy (one-door policy) and passing laws (large scale act) to make investment in Greenland more attractive.
The increase in mineral licences and application shows that the Governments domination on the mining industry is successful, as the industry is internalizing the domination and acknowledging the legitimacy of the of the governments goal.

However, the education strategy is working under the assumption that the mining industry may not happen. Even though there is a high level of legitimacy in the mining industry, the education strategy does not explicitly aim to prepare for the mining industry, instead it is working towards heightening the general education level of the country. This is in of itself a good thing, as a higher level of education overall, also makes it easier to reach the goal of at least 50% per cent of the mineral workforce be local. But when we consider the legitimacy of the mining industry and the ability for domination the politicians have, it is possible to increase the symbolic violence on the citizens to take certain educations over others. (At this point we have to keep in mind that pedagogic action can only be successful when there is pedagogic authority (an arbitrary power to act).) The increase of percentage of the population with an education shows that the pedagogical action of increasing education is confirmed in the pedagogical ethos. More people are taking an education as the dominant people, i.e. politicians, teachers and counsellors, emphasize the importance of education. However, as a large part of the current population has no or little education, there is no pre-existing pedagogic action to create a social reproduction through diffusion or even family education, so that leaves the institutionalized education. The government is aware of this, as the strategy for vocational education states that the student counselling system should be better, however it is again without an explicit focus on the mineral industry. As the vocational education system offers up to 90 different educations, the pedagogic authority of the government (when it’s goal is to have at least 50% local workforce in mining industry) is compromised, due to lack of determination of the value of the mining oriented vocational education.

The education strategy has a very big emphasis on creating more apprenticeships/trainee places, even though the problem of short of places may solve itself once the large-scale operations start, as London Mining alone will create 2100 jobs in the construction phase and about 700 in the operation phase. When the mines start getting
build the pedagogic action will automatically follow, as the demand from the industry will ensure the creation of the apprenticeships. Pedagogic authority is inherent in this pedagogic action, as it is easy to see the career possibilities in the mining industry.

The education strategy’s section on vocational education is lacking in its focus on language, though trilingualism is mentioned as one of the major landmarks for education. London Mining requires all its employees to speak minimum Basic English before they gain employment, without exception. The economic counsel points out that the level of language is challenged when the students start their vocational education. This means that the pedagogical action of making language learning a part of the vocational education will have a legitimized pedagogic authority.

5.3. Analysis Part Two:

5.3.1 Introduction

In this chapter we will bring the knowledge from theory and contextualisation chapter together. We will analyse our empirical data which is collected from various website of Greenlandic government.

5.3.2 Analysis of the data

By looking at the empirical data and the philosophies of Bourdieu we begin by defining the field in which we run. We are arguing that higher education of Greenland is a subfield if we think the whole educational system of Greenland as a field. The numbers provide us the inner-view of the field (how the new actors of the field are thinking about the fields) and how they think about other sub-fields they are reside in.

After accomplishing the secondary education, many students in Greenland have to select a new field to continuing their studies and to get higher degree, for example AP degree or bachelor degree. If we see the table -4 it is clear that the sub field of higher education gains the importance in correlation to the other field of the society. The actor in this case the student had to take an internal debate between the capital they hold and its importance in the given time and space. When they are selecting their way towards a new fields or sub-fields, they always think about the way that, which way can bring most economical benefit. In our case, job opportunity is a very crucial fact for the student and job availability directly depending on the current and/or future job field and symbolic violence.

If we see the table of the job possibilities, we can easily understand that there will be an increase in the job availability and that will be done by the development of the mining industry. It is really a significance number, which is about 4500, if we compare the number with the Greenlandic total population. Because of changing the condition of the
job field, the value of the cultural capital has risen in the period of last couple of years. Increases number of educated people has been mainly goes in the subfield of the education and mostly to the vocational education. These tell us, there might be change of habitus among the people who are under the subfield arena.

As we explained in our theoretical chapter that, the accumulation of the three capital (Economic capital, Cultural capital and Social capital) make the symbolic capital and it will be seen among actors in the form of prestige. So, Prestige is a product of forms of capitals in our case. It means that if one who is doing a better job or has better job opportunity than others then he have more prestige than others. This can increase Symbolic capital, and as we can see, in the table 4 in the contextualization chapter which is saying, from the year 2008 to 2011 the number of the people who is taking high school education and vocational education are increasing gradually. Because they know that if they want to work in the mining industry, they have to fulfil the qualification that is demanded by the mining industry. That is why; tendency has risen up among the Greenlanders to take education more than the primary level. So if there is a job opportunity in taking the more education after elementary level, then that is attributed to Cultural capital because agent gained knowledge. Here the concept of symbolic capital has applied because they are gaining knowledge as well as cultural capital and later they will transform it to the economical capital by getting the job in the mining industry.

The symbolic violence applied to this generation all stemmed towards that a high school education or vocational education, first of all, was available to everyone and also was the way to future. The constant act of symbolic violence has of course influenced this generation towards assuming a larger social capital from a higher education than the elementary level. The constant pressure has also changed the field of institutionalized education into a position where it is no longer simply giving it current cultural capital to the people operating within its fields but it is also actively exercising a coordinated act of violence towards its participant and pushing them towards gaining even more cultural capital that can also lead to economic and social capital by expanding the sub-field of high school education or vocational education.
After the prestige issue, another question comes to your mind that is, if the mining industry developed in Greenland then only those students have the job opportunity those are studying in the mining related subject or it is open for the other student too. If the symbolic violence has applied here then it’s only for the students who are studying in the mining related subject. Then, Why the other subjects are also gaining student? To answer this we will put our focus on the figure-2 (the employee structure in the mining industry). According to this data, mining industry only need 4% employee with higher education and 5% in the management trade and economy. So we can say that they need only 9% people with higher education. About 91% workers of their total demand for the mining industry can be employed without having a higher education.

Now another question can be raised, if the mining industry does not required any the higher educational then who are those people who will be employed and what would be their educational qualification? To answer this I would like to go to the figure 2 once again. Data says among the 91% workers 7% will be office and administrative workers, 33% will be construction and extraction workers, 13% will be installation, maintenance and repair workers, another 13% will be worked in the processing plant and finally 25% will be transportation and materials moving worker. To do this types job people don’t need the higher education. Greenland educational system says vocational education is enough for doing this type of work. That is why people are not interested only about any particular type of subject but also all type subjects. The intention to look at this data is, if the cultural capital is tied up with any educational subject or any educational level then we will be able to see that people are interested for specific subject. But demand of mining industry is particular skilled workforce for particular position. It is all about gaining right knowledge for the right place. Their demand for various type workers is responsible to distribute the student into deferent subject. Here concept of pedagogic authority has applied. Because, the job opportunity increases the legitimacy of the pedagogic authority and distribution of the student into different subject will increase the chances of getting job. If all are studying in the same subject then they will struggle for the same position in the field.
This exercise of violence has shaped the student entering the subfield of higher education into attributing a much bigger symbolic value on the end result it gives. The fact that we just explained seems to perceive a shift in cultural reproduction and a change in cultural capital, but this extended job field has given a conscious pressure on the politician to apply the symbolic violence on the educational system and the culture by giving an apparent higher cultural value on the student being afflicted by this. The symbolic violence applied to this student all stemmed towards that a higher education but the fact also surprised that traditionally strong subject are getting more student than the new subject. The school (the Greenland school of mineral and petroleum (Sisimiut)), which is established specially for the mining industry, are not getting much student as needed. Here the symbolic violence has failed to force upon the students who are receiving higher education. That could be sign that the violence from the established players and creators of the fields are not specific enough in their pushing of the cultural and social and social gain of the cultural and social gain of higher education in this subject. This subject should gain much higher number of applicants, the reason for this, rise in applicants is a pressure of the specific violence. But this leads us to believe that there might be secondary option. For example, when the mining industry will developed totally there will develop a new job field whereas several type of employee can work such as mining professional, electrician, construction workers, administrative worker etc. that we have already discus earlier. In this case people might think that if they want to be mining professional then it will take more time and also be difficult, because of the knowledge level they have. The reason is, according to symbolic violence theory, firstly, the family (in the diffuse education mode) shape the children to posses a certain perception of their surroundins. The student, who has a bad diffusion education, will face lot of problem in the institutionalised education level. In Greenland case, there are very few students who have a very good diffusion education because their parents were not well educated. (For better understanding parents level of education we apply our general knowledge to find out the approximate age of the parents group and the educational structure of Greenland for the time period when they were studying). Secondly, pedagogic authority might be weaker here because it has failed to legitimate the pedagogic action. Thirdly, Bourdieu's reproduction theory says, power of the
symbolic violence gives the legitimacy to hold the social hierarchies and educational system by transmitting the knowledge within the ruling class family. Only the children from ruling class have the capital, which allow them to adapt more easily to educational requirement. For this reason new subjects are not getting more applicant than the traditional subject.

From the three different capitals, our examination indicates those capitals that initially make up the Symbolic capital of the sub field, specifically cultural capital (student who take higher education) and additionally economic capital. From the above discussion we can say that cultural capital has a huge impact on the symbolic capital due to the job opportunities owned by the education but not any particular education. That this Cultural capital is not owe to the mining related subject but the whole education system. It indicate that people who take a little higher education, if they other industry develop in Greenland then they move to the other industry. And if this is the case then cultural capital is not dependable to any specific industry but the education itself. Now we can argue that cultural capital not only legitimate the knowledge but also an important dominant part of the symbolic capital. And at the same time we also discovered that economic capital also an important part of the symbolic capital. Because, economic capital is the sum of one’s future economic opportunities that, we have defined that in the prior section of the chapter by describing the number of people who are taking the higher education. The reason behind this was the influence of the mining industry which will develop in the near future and create a new job field. And finally, we can say that cultural capital are transforming into the economic capital through the pressure of the symbolic violence.
5.4 Conclusion:

The mineral strategy is working, as the number of licences is increasing, and the mining industry is on the verge of becoming a significant contributor to the Greenlandic economy, with the first large-scale project pending application. The education strategy is also working, as more and more people are getting an education, however the strategy itself has no focus on mining, though it would have legitimacy if the focus on mining were increased. The many job opportunities in the mining industry may solve the apprenticeship/internship places shortage. One of the major requirements of the mining industry is that all employees must speak at least minimum basic English, and the elementary education has not been good enough in providing the students with sufficient language skills, though the overall education strategy has trilingualism as one of its major landmarks, the vocational education strategy has nothing on language learning. The pedagogical action of making language learning a part of the vocational education will have a legitimised pedagogic authority.

There is a rise in the number of vocational and high school applicants in Greenland especially from 2008 to onward and therefore we can claim that it is completely the consequence of the future development of mining industry as the Greenland is thinking now. By looking at the number of the different educational sector, we can conclude that the increase of the high school and vocational applicant is the result of the impact of the structure of employee that the mining industry demanded. We can, however, see the sub fields of education (Vocational and High School) in Greenland are encountering problem that can be raised in the future, by the development of mining industry, by making skilled workforce and by making their student prepared for higher education.

According to the data that we have analysed says that there are significant difference between the number of applicants of mining related subject and the vocational education. There is also strong indication that the applicants from the vocational education are more influenced by the mining industry than the higher education applicants (subject that is directly related to the industry). It is because, Students of the vocational education are feeling more secured to get a job than the other students. Because, there is legitimacy deference between these two groups. According to our data,
mining industry need less percentage of mining professional than the other workers. If somebody finishes their vocational education they will be count as a qualified workforce and can apply to the mining industry. That’s why they are more interested to the vocational education. Finally we would like to conclude by saying that, by taking more education, the cultural capital will be transformed to the economic capital under the pressure of symbolic violence but there will be no shift between the number of people who are interested in mining related subjects and the traditional subjects after developing the mining industry.
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