Analysis of “Students of Ellehammer”

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Intro

Within recent years, different research fields have supported the use of diversity and co-creation within groups that seek innovation (Cross, Parker, 2004). I believe that this trend has and will slowly find its way to the municipalities and our school system. I work as a learning consultant at the department of youth and schools in the municipality of Hvidovre. It is rare that the different departments of the municipality commence a collaboration to solve a mutual problem.

In 2013, the Danish government started a reformation of the Danish school system. An aspect of the school reform of 2013, that will change the traditional methods used in the Danish school system, is the "open school" (government agreement, 2013). The agenda encourages the schools to collaborate with local businesses and cultural organizations.

To understand the national context of the mini-project, it is important to have three specific governmental agendas in mind.

1. **In 2012, the government produced an innovation strategy called "Denmark - land of the solutions" (*Danmark – løsningernes land*).**
   The vision of the innovation strategy is that Denmark should be a country where innovative solutions to major social challenges are translated into growth and jobs. The strategy focuses on three main areas:
   - Social challenges to drive innovation.
   - More knowledge must be translated into value.
   - Education - to increase the innovation capacity. (ufm.dk)

2. **School refom and "the open school"**

   Schools must be more open towards the surrounding community. This will be accomplished by integrating local sports clubs, cultural centres and other associations into the schooldays by committing municipalities to such cooperation (www.uvm.dk, Improving the Public School)

3. **New simplified joint goals**

   As of next school year, the school system will get new joint goals in all subjects. The joint goals are the teacher's tool and guide to meet the specific subject's curriculum. Innovation and entrepreneurship will, as a new addition, also get joint goals, but it will be a "timeless" subject. This means that it will be demanded that all subjects participate in the joint task: increase the student's innovation capacity. (www.emu.dk, Forenklede Fælles Mål)

Case description of Students of Ellehammer

Prior to introducing my empirical data and commencing an analysis, it is important to clarify my case. As case for my mini-project, I have chosen to use the project "Students of Ellehammer" (SE) (http://www.sciencehvidovre.com). This case allows me to focus on "the open school" and implementation of innovation processes in the school system. SE is planned as a co-creation between municipality, schools and local businesses. SE deals with the three governmental agendas by: **1)** encouraging schools and local business to co-create **2)** using social challenges to drive innovation, and **3)** educating the schoolchildren in innovation processes - to increase the innovation capacity.

SE is a local project that originates from the national project called "Science Municipalities" (SM). SM was carried out in 2008-11 and its main purpose was to help schools to engage in collaboration with local business and informal learning environments (Jensen, 2011).

In 2008, Hvidovre local political council decided to participate in the SM project and I was assigned to develop, implement and handle the daily operations of the project. I was not given specific commissioning powers, but it was expected that I found a constructive method and structure for the collaboration between schools and local businesses in Hvidovre.

To meet this challenge I started the project Students of Ellehammer (SE) www.sciencehvidovre.com . SE is an innovative co-creation between schools and local businesses and I find it interesting to analyse what leanings I can harvest from SE’s mistakes and successes. This can be used as valuable knowledge and experiences in my own, the teachers and the municipality´s future work. The leanings can ease the implementation of the “the open school” and innovation processes at the municipality’s local schools. Questions have been raised about the importance and legitimacy of introducing innovation compared to more focus traditional subjects like math and Danish. I intend to question if co-creation can motivate and develop/create the competences that the curriculum and the national strategy “Denmark - land of the solutions” require.

Empirical data

In January 2013, I followed a grade 9 exam-project (lower secondary education) at the Dansborgskolen, a local primary school in Hvidovre. The students were presented with real life problems from the local hospital, the solar panel producer Gaia Solar, and the local sewage center BIOFOS. In 2013, when I did the interview, my main interest was to document the involved partners' reflections and thoughts through the process.

I interviewed the students and teachers before, under and after the process. I interviewed the student groups and the teachers individually. Each interview lasted approximately 15 min.

I asked the following questions (model 1).

Questions to the students and teachers		
Before	Under	After
What are your thoughts on having to working with a real and current issue? What are your thoughts on having to working together with a local business?	What are you current thoughts on: Working with a real and current issue? Working with the local business?	What do you think of working with a restricted issue given to you by a local business? What do think of the methods that Students of Ellehammer introduce?

Model 1

I interviewed the local business before and after the co-creation process. The interview lasted approximately 30 min. and I asked the following questions (model 2).

Questions to the local business	
Before	After
Why do you engage in collaboration with schools? What are your thoughts on having to work with a local school?	What are you current thoughts on: How was it working with a local school? What do you as a business gain from the process?

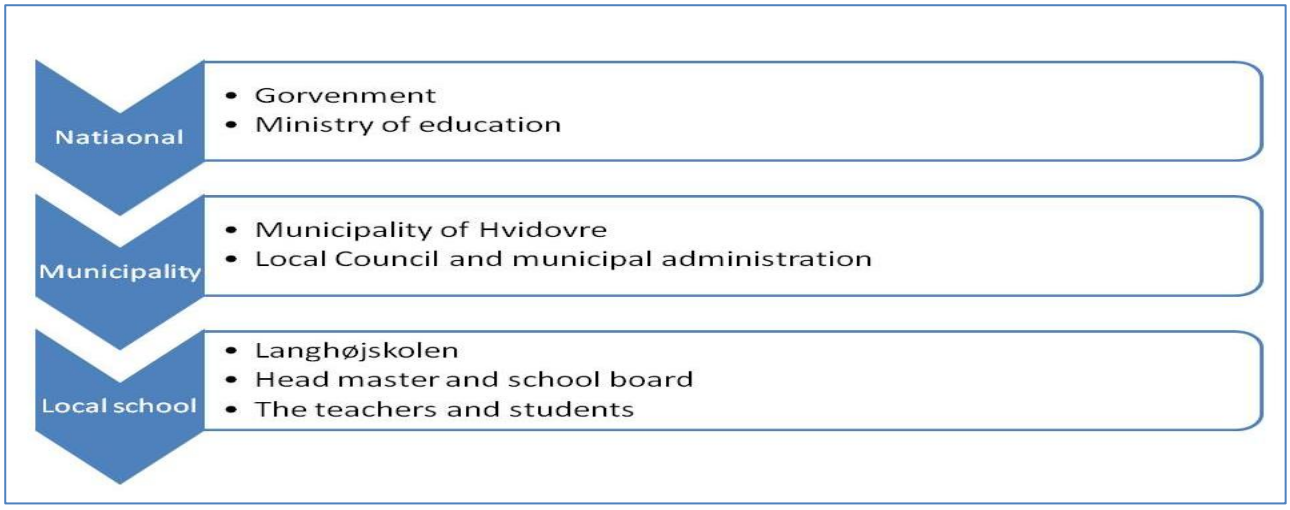
Model 2

I have not been able to interview a person from the municipality of Hvidovre - mainly because I could not find an interviewee with

experiences and knowledge within this area. To meet this challenge I will be drawing on my own experiences and knowledge from 4 years as a science consultant in Hvidovre.

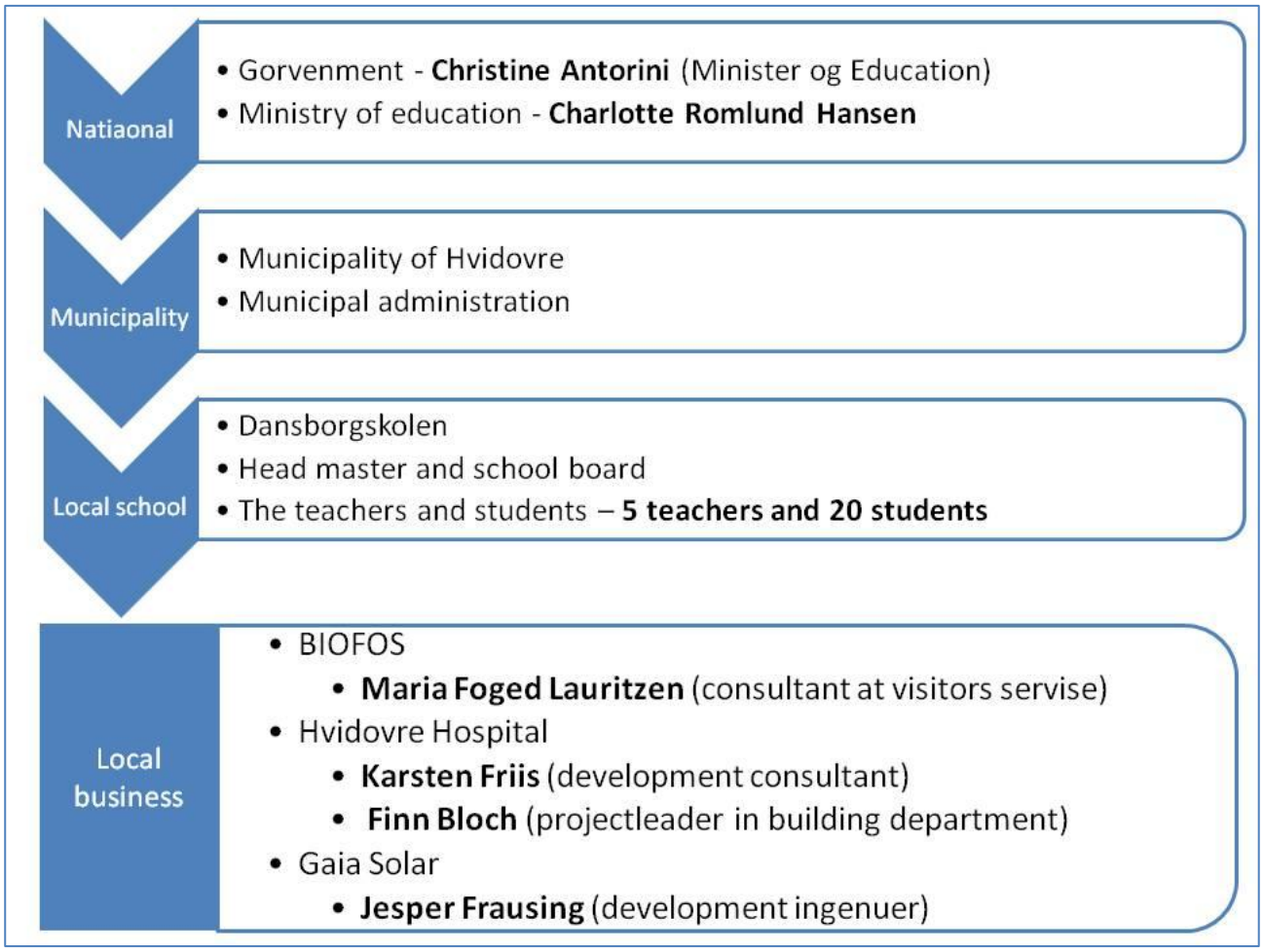
The students, teachers and local businesses will be my main focus, but I had the chance to interview Christine Antorini (the minister of education) and Charlotte Romlund Hansen (development consultant at the ministry of education) and they will be used to give a national and governmental perspective. Christine Antorini was interviewed while she visited the Langhøjskolen during the winter of 2013, and Charlotte Romlund Hansen participated during the students' presentation and was interview minutes after.

Prior to commencing a presentation of my empirical data, it is important to provide a rough view of Danish school system for clarification. To do this, I will have focus on formal structures and lines of command. I will categorise the approach as a rational perspective (Vendelø, M. T. 2014).



Model 3

This model allows me to pinpoint who and from which departments I need to find people to interview. To get the full picture, I tried to get an interview with a person from all levels of the school system. The following model will give you a view of who I managed to get an interview with.



Model 4

I will, in model 5, 6, 7 and 8, give at rough picture of what insights and answers the different interviewees gave me (annex 1).

National

- **Christine Antorini**

I would like if the kids would be introduced to innovation in the early stages of their school experience. Ideally already in preschool, because it bring curiosity to life . The students realize if they work together with their friends , teachers and surroundings that they might be able to make 1+1 = 3. This is in my opinion innovation – how can I use existing knowledge , together with others, in a new context. (5:45)

I find (SE) interesting because the student are introduced to a concrete problem. The students need to transfer the knowledge from the books to producing a product. This is done in collaboration with a company which means the knowledge is related to the real world and is used to create value for others. And vice versa – the company gets the chance to show that professional knowledge and collaboration competences are very important. (7:14)

- **Charlotte Romlund**

The authenticity has an influence on the students arrangement , but it also affects the way the students approach the assignment and it becomes easier to keep focus. (19:06)

When you use an authentic assignment the student will get learnings on several levels. The fact that there is a real receiver of the product provides the students with an attention/notion of a necessity of being able perform at certain professional level. This forces the student to be better prepared for the presentation. (19:41)

Model 5 - annex 1

Local School

- **Teachers**

Before	Under	After
We Expect: - The students learn how to use innovations processes . (1:38) - The students' learnings can be transferred to their future work life and studies. (2:08) - To motivate a greater amount of students. (2:25)	**We experience:** -The students feel a greater ownership of their project (3:30) -The student are motivated by a "real" problem.(3:37) -The Students feel like their project has a purpose and is motivated by the connection to the real world. (3:30) - They contact and seek knowledge from a wider area of knowledge domains. (20:51) - It is refreshing for me as a teacher to work this way . (21:28) - the students are learning to network and share ideas (3.16)	**We have experienced:** - Co-creating was a motivating factor for the students and working with real problems motivated the students (17:06) -The level of the students project is higher then normal. (18:02) -The students are happy to present their work to the companies. (18:14) - The students have a feeling that they have made a difference through their project. (19:23) - The student liked the delimited problem. (16:47) and (19:29) -I would do it again! We learn more as teachers. (21:45)

Model 6 - annex 1

Local School

- **Students**

Before	Under	After
We Expect: - That it will be relevant, interesting and currently. (5:40) - That it is more "real " (4:57) - Motivating that we can, maybe, solve problems and help the local community. (5:08) - That we need to know what we present in the end of the project, because that the companies as experts knows what we are talking about (5:16)	**We experience:** -It makes it more real and we solve the challenge in a different way when it seems more realistic (4:57). - It is exciting to find out if the company can use our projects (5:06) - Is makes our project/exam more serious. (5:42)	**We have experienced:** -Working with real problems is motivating (15:50) and (16:18) - Co-creating was a motivating factor for the students. (15:45) and (16:46) - The students have a feeling that they have made a difference (16:18) - The students liked the delimited problem. (16:05) and (16:48) - The innovation-process has been a good tool(16:25)

Model 7 - annex 1

Local business

- BIOFOS - **Maria Foged Lauritzen**

Before	After
-We hope to get active citizens (6:35) -I expect that the students can produce something we can use (8:59)	-It was motivating, to me and the students, that I attended the presentation (9:25) -The presentations were fascinating (17:18) -We have learned that we can use a new method in our visiting department (18:45)

- Hvidovre Hospital - **Karsten Friis and Finn Bloch**

Before	After
-We want to contribute to the local schools and get new ideas through collaboration and we want to se the presentations. (6:12) -You need collaboration and reality to practice and understand creativity -We want to co-create to create innovation (8:00)	-Interesting to hear the solutions (18:37) -We need to be more specific when we choose an assignment, but we are open to do it again another time (20:11) -We can use the ideas that we haven't thought of ourself (21:10)

- Gaia Solar - **Jesper Frausing**

Before	After
-Interesting because it is local schools and we can provide expert knowledge (6:25) -We want to give students real life assignments (8:47)	-We can get ambassadors of our technology (6:55)

Model 8. Annex 1

After the transcription, I did a rapid search of similarities and differences in the interviewees' answers and have discovered a prominent similarity. Interviewees from the governmental, local school and business level all mentioned that collaboration between local businesses and local schools can/will lead to more motivated students. As a student stated: *"I find it cooler that we had to work with a real problem"* (annex 1, 5:50), and a teacher stated: *"we are very excited – it is refreshing that the students are allowed to work with this method. It is more interesting to us, but also for the students"* (annex 1, 21:28). These findings combined with my intro lead me to the following problem statement.

Problem statement

How might a co-creation process between students, teachers and a local business affect the involved partner's motivation and innovation capacity?

Subquestions:

- *How might I use Amabile's Time pressure/creativity matrix as a perspective to analyze the process?*
- *How might I detect growth in the students' innovations competences?*
- *How might I use Lotte Darsø's Diamond of innovation to analyze the process?*

Methodology

My mini-project aims to get a better understanding of why SE is motivating for the students.

As a prerequisite for an analysis of how co-creation affects the students motivation, it is important to define the term co-creation. In the field of co-creation, the works of Rex Degnegaard suggest that co-creation will change the modern business

(Degnegaard, 2014). Prahaland and Rasmawamy state: “*Companies spent the 20th century managing efficiencies. They must spend the 21st century managing experiences (Prahalad and Ramaswamy 2002*). This paradigm shift forces a modern company to not only think outside the box, but to redefine the box and involve the costumers in the development of new products. The main focus is to activate the costumer’s needs, ideas and knowledge. The company will have to shift its focus from costumer segments to a deeper understanding of each customer. This might lead to an enhanced “*costumer experince*” and change the company’s mindset from “mass production” to “mass customization” (Degnegaard, 2014).

I will use Amabile’s *“Timepressure/creativity matrix”* (TPCM)(Amabile Hadley, K. & Kramer, S.J., 2002) to analyze and assess how co-creation affects the motivation of the partners involved. The TPCM (model 9) gives me a perspective that allows me to assess if the students and teachers experience the process as a mission, treadmill, expedition or as being on autopilot (Ambile Hadley, K. & Kramer, S.J. 2002).

The national innovation strategy “Denmark - land of the solutions” indicates that the Danish government wants to increase the students' innovation capacity, but TPCM and the article “how to kill creativity” (Ambile, 2002) distinguish between creativity and motivation but they do not distinguish between creativity and innovation. To get a better understanding of the distinction between innovation and creativity, I turned to the literature concerning the term creativity. In the literature concerning the term creativity, innovation in well-know, and as McLean points out, the distinction between innovation and creativity is very important. Creativity is a phenomenon that is initiated and exhibited at the individual level with a focus on expertise and personality. Innovation operates much more at the group and organisational levels. Focus is on interrelationships,

interactions and dynamics in the group/business (McLean L D, 2005).

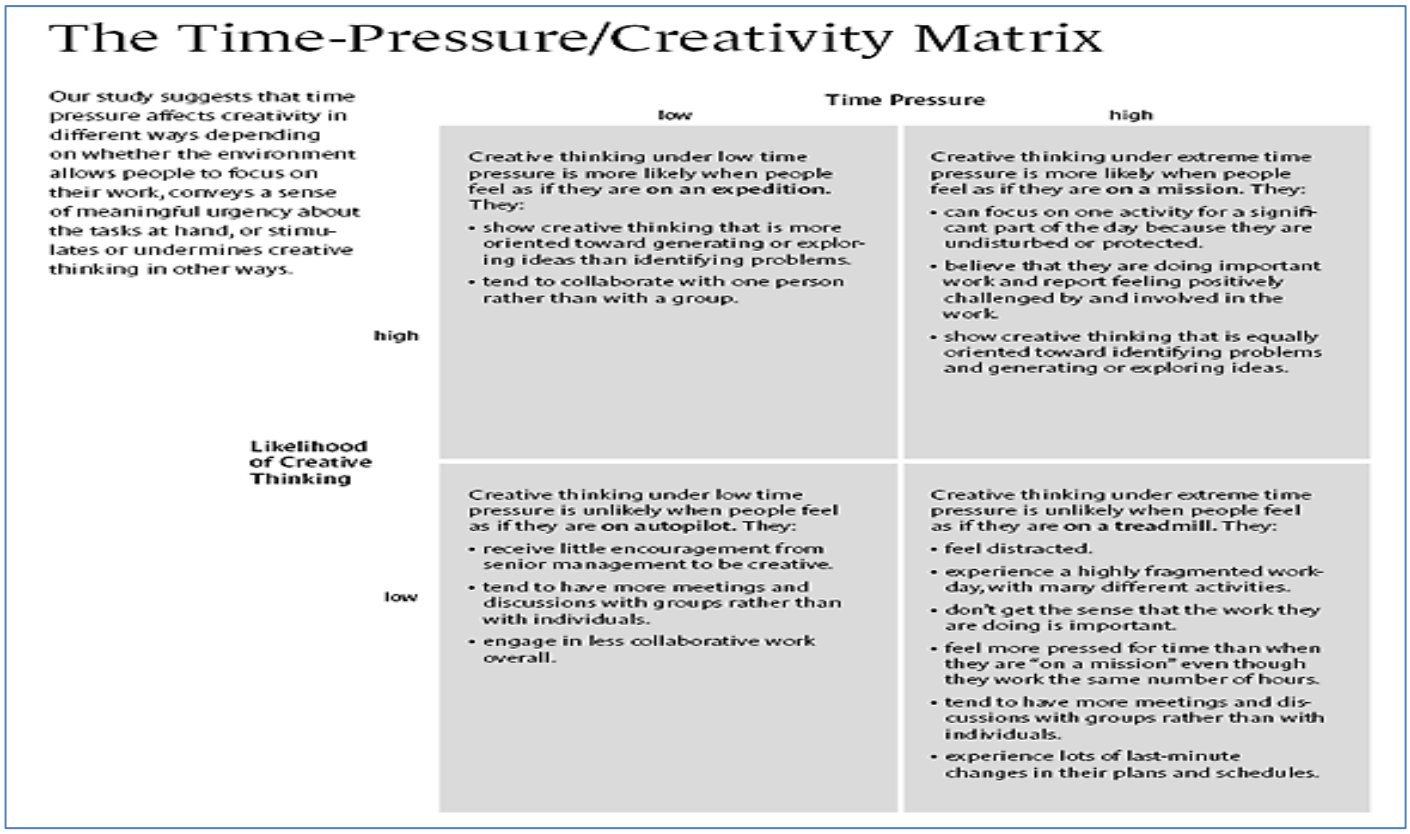
”The Gymnasium Thought over Again” started in May 2012 and it aims to motivate Gymnasium students through innovation processes. The Danish institute of science didactics has followed the project and conducted and published a midterm evaluation in 2014 (Nielsen, 2014). The report measures a student’s innovation competences by measuring 1) action, 2) creativity, 3) collaboration, 4) navigation, and 5) dissemination competences. This understanding of innovation competences can be compared with Lotte Darsø’s definition: “*Innovation competency is the ability to create innovation by navigating effectively together with others in complex contexts*” (Darsø, 2014). I intend to use the learnings of the midterm evaluation to compare and discuss the learnings from my analysis of SE. This allows me to assess if the students have increased their innovation competences.

I will use the Diamond of Innovation (Darsø, 2011) to analyse how I interact with the students, the teachers and the local businesses. The Diamond of Innovation is mainly a descriptive model that can help me to understand real-world events and the relationships between the factors responsible for these (Darsø, 2014). I intend to focus on Darsø’s four innovation roles called the innovation gardener, jester, conceptualizer and challenger (Darsø, 2003) and use these to understand the interactions between the involved partners.

Time-Pressure/Creativity Matrix

I see the TPCM (model 9) as a normative model that can be used to evaluate a change of performance and can help in the search of answers to the question, "what's going on?" (Darsø, 2014).

TPCM deals with time pressure (x-axis) vs. likelihood of creative thinking (y-axis). As model 9 shows, the likelihood of creative thinking is high if the involved person has the feeling of being on a mission or an expedition.



Model 9 (Amabile Hadley, K. & Kramer, S.J., 2002)

I will use TPCM to analyse my interviews with the students, teachers and the local business. This will enable me to assess if the involved person can be categorised as being on a mission, treadmill, an expedition or autopilot. Model 10 explains how the 4 categories are defined.

Model 9 (Amabile Hadley, K. & Kramer, S.J., 2002)

THE IDEA AT WORK

PROTECTING CREATIVITY

Creativity can flourish or fade under all kinds of time pressure. Here's what makes the difference:

On a mission: High-pressure, creative days are filled with focus and meaningful urgency. People concentrate on one project for most of the day, feel engaged in their work, and understand why their project is crucial. If they're collaborating, it's usually one-on-one.

On a treadmill: On high-pressure, low-creativity days, people feel they're running faster but getting further behind. Pulled in multiple directions, they feel unfocused, confused, and trapped in group meetings.

On an expedition: Low-pressure days yield creativity when people focus more on exploring ideas than on simply identifying problems, and when they collaborate one-on-one rather than in groups.

On autopilot: Low-pressure days generate no creativity when people do their jobs without engaging. Managers provide little encouragement to think in fresh ways, and employees languish in numerous meetings.

CATALYZING CREATIVITY UNDER PRESSURE

To help employees feel they're on a mission or an expedition, rather than on a treadmill or autopilot:

- **Resist the illusion that pressure spurs creativity.** It usually doesn't. At AT&T's Bell Labs, the philosophy that "big ideas take time" sparked revolutionary innovations—the transistor, the laser beam—earning researchers seven Nobel prizes.
- **On low-pressure days, encourage people to play with ideas and develop something new.** 3M famously encourages scientists to devote 15% of their workweeks to creative endeavors—even those far afield from their assigned work.
- **Articulate realistic goals.** To stimulate the creative insights that send a project leapfrogging ahead to exciting solutions, design feasible project plans that reflect real requirements for success.
- **Protect time-pressured creative thinkers from distractions and unrelated demands.** In one study, engineers who gave each other uninterrupted quiet time during specified periods of every day accomplished more and felt better about their work.
- **Explain why tight deadlines are necessary.** Employees feel a sense of mission when they understand the urgent need for their work. They feel they're on a *treadmill* if they suspect you've handed down arbitrary deadlines just to get them running faster.
- **Encourage one-on-one collaboration.** Too many obligatory group meetings spawn feelings of fragmentation and wasted time.
- **Minimize abrupt scheduling changes.** You'll reduce uncertainty, helping people concentrate on their *real* work.

Model 10. (Amabile Hadley, K. & Kramer, S.J., 2002)

The guidelines, from model 10, will be used to analyse my interviews and categorise the statements in TPCM's four categories. Statements concerning the students are shown in model 11, statements concerning the teachers in model 12, and statements concerning the local business in model 13.

The Students

An expedition	A mission:
The students learning's can be transferred to their future work life and studies. (2:08)	The students liked the delimited problem. (16:05) and (16:48) That we need to know what we present at the end of project, because the companies as experts know what we are talking about (5:16) It makes our project/exam more serious (5:42) It makes it more real and we solve the challenge in a different way when it seems more realistic (4:57). It is exciting to find out if the company can use our projects (5:06) It makes our project/exam more serious. (5:42) The students are learning to network and share ideas (3.16) They contact and seek knowledge from a wider area of knowledge domains. (20:51
On autopilot	**A treadmill**

Model 11 - Statements concerning the students.

My immediate assessment is that the students believe in their own abilities and communicate positively about SE. When applying the TPCM to the statements, I assess that they can be categorised as being on a mission.

The Teachers

An expedition	A mission:
It is refreshing for me as a teacher to work this way. (21:28) I would do it again! We learn more as teachers. (21:45)	To motivate a greater amount of students. (2:25)
On autopilot	**A treadmill**

Model 12 - Statements concerning the teachers

I assess that the project has a positive effect on the teachers' motivation and they can be categorised as being partly on an expedition and partly a mission.

The Local Business

An expedition	A mission:
We have learned that we can use a new method in our visiting department (18:45) Interesting because it is local schools and we can provide expert knowledge (6:25) We can get ambassadors of our technology (6:55)	We want to contribute to the local schools and get new ideas through collaboration and we want to se the presentations. (6:12) We need collaboration and reality to practice and understand creativity We want to co-create to create innovation (8:00)
On autopilot	**A treadmill**

Model 13 - Statements concerning the local business.

It is, from my point of view, clear that the local business assesses that they get great value from participating in SE. BIOFOS mention that they have leaned a new method of communicating with citizens. They find it motivating to help the local community and they value the students solutions. I assess that the local

businesses are categorised as partly on a mission and partly on an expedition.

The TPCM has been a resourceful tool to analyse the involved partners' motivation, but it can't tell me anything about the students' innovation competences.

The Gymnasium Thought over Again

The Danish institute of science didactics has followed the project "The Gymnasium Thought over Again" (Nielsen, 2014), and in the midterm evaluation students' innovation competences are measured by five competences (explained in detail in annex 2). By using these sign of innovative competence I intend to assess if the students have increased their innovative capacity. The model 14 contains quotes, from my interviews, that I assess shows a sign of growth within the given competence.

The action competence	• They contact and seek knowledge from a wider area of knowledge domains (said by teacher)
The creativity competence	• The students are learning to network and share ideas (said by teacher)
The collaboration competence	• The students need to transfer the knowledge from the books to a producing a product. This is done in collaboration with a company which means the students knowledge is related to the real world and is use to create value for other. (said by Christine Antorini)
The navigation competence	• The students learn how to use innovations processes (said by teacher) • The innovation-process has been a good tool (said by student)
The dissemination competence	• The students are happy to present their work to the companies. (said by teacher) • The presentations were fascinating (said by local business) • Interesting to hear the solutions (said by local business)

Model 14

By looking at model 14, I assess that SE has a framework that enables students to increase and develop the five innovative competences. However, I need further data to give a valid assessment of the students' development of innovative competences.

On the basis of my interviews, I also assess that:

- The students perform better at the oral presentation.
- The teachers have a clear focus on how the students acquire innovations competences that are relevant to authentic challenges.
- The students, teachers and local businesses are all benefiting from being part of SE. Here are a few benefits:
    i. The students received a motivating, relevant and realistic education
    ii. The teachers get the opportunity to experience and develop a new teaching method
    iii. The companies have a chance to tap into new ideas they can’t get in other places and get the opportunity to give back to the local community.

The five innovations competences have helped me to understand how SE can develop the students' competences, but it can’t explain how the students, teachers, and local business interact. I will, in the following paragraph, introduce the Diamond of Innovation (Darsø, 2011). This gives me a perspective that can help me to understand how the involved partners interact.

The Diamond of Innovation

I will use the Diamond of Innovation (Darsø, 2011) to analyse how I, the students, the teachers, and the local businesses interact. The model has four parameters (ignorance, knowledge, concepts and relations), all of which should be in play if the innovation process is to be successful. The poles of the axes are

complementary in the sense that they reinforce one another. Concepts and relations are not contradictory; on the contrary, both are often worked on at the same time. A project leader can choose to perform all of these functions himself or he can choose to develop innovative competences among the participants in the group by letting the roles rotate between them (Darsø, 2003).

I intend to focus on how the four parameters are put in play by focusing on the diamond's four innovation roles called the gardener, jester, conceptualizer and challenger (annex 3).

My assessment is that SE generally operates in the area of the diamond called relations. The overview (model 15) and the following analyses are conducted on the basis of my experience from facilitating SE projects troughout the last 4 years.

Duing my analysis it became clear that I and the involved partners hold and switch roles throughout the process. This insight suggested that I divide the process into the four sections Before, Under, Presentation and After. Model 15 provides an overview of the correlation and role of the partners.

	Before	Under	Presentation	After
Students	No role	Jester/Challenger	Conceptualizer	No role
Teacher	Jester	Gardner/challenger /jester	Jester/gardener	No role
Local business	Challenger	Gardner	Challenger	conceptualizer
Me/consultant	Gardner/conceptualizer	No role	No role	Conceptualizer

Model 15

Before

In this section of the process, the teachers and local business are finding a common understanding of how the project will unfold. The teachers try to understand what expertise the local business

can bring to the table. The teacher acts like a jester and ask burning, hypothetical and crooked questions. The local business acts like a challenger and tries to answers the questions by screening the business knowledge. They ask rude questions like: “do the students have the ability to handle a second degree equation?”

It is, as a learning consultant, my role to facilitate the meeting between the two partners and clarify the concept of SE by using examples from previous co-creation projects. I assess that my role is a mix between a gardener and conceptualizer.

Under

The students start the process by working in the area called ignorance. They act like a jester and collect data by asking the local company naive, burning and hypothetical questions. They move towards the area called knowledge as the process unfolds, and start to act like a challenger by seeking knowledge by collecting general facts and asking the local business about underlying assumptions.

The local business acts like a gardener and will try to create positive relations by helping the students to get in touch with the right people.

The teacher is the students' supervisor and will have a mix of jester/gardener/challenger. It depends on the group dynamics. Some groups need help with energy level and group climate, others need help with asking the dumb and impossible questions and a third group needs a supervisor who acts as a challenger.

I have no role, but will always contact the teachers and do a bit of gardening by asking how the process unfolds.

Presentation

The students present their designs by clarifying, illustrating and describing their design concept. This puts them in the role of a conceptualizer. The local business collects the data and screens the presented concept for knowledge. They act as a challenger and try to understand if the design can bring value the company.

The teacher is interested in getting to know the strong points in the presented design. He provides a positive situation for all involved in the presentation - like a gardener. The teacher also gathers information by asking hypothetical, burning and naive questions - like a jester.

After

The local business will gather the presented designs and use the new knowledge to improve the company’s products. My task is to evaluate the process and use the gathered information to refine the concept SE - like a conceptualizer.

Learnings from the Diamond of Innovation

The result, as shown in model 15, indicates that the involved partners switch roles throughout the project. On average, people were to switch between 3 different roles, and all four roles were used at least 3 times. The most surprising aspect, from my point of view, is that the students, teachers and local business tend to share the roles between them - when a student acts as a jester, the business is a challenger and the teacher a gardener.

Conclusion

The main goal of the current study was to determine if a co-creation process between students, teachers and a local business effected the partners work motivation and the students' innovation capacity?

My study has found, by applying the perspective of TPCM (Ambile, T.M. Hadley, K. & Kramer, S.J, 2002), that SE motivates all the involved partners. The perspective indicates that the partners can be categorised as followes:

- Students → On a mission
- Teachers → Partly mission partly expedition
- Local business → Partly mission partly expedition

It can, in the light of TPMC, be concluded that SE is a resourceful teaching method that motivates and brings value to all the partners involved.

My aim was also to assess and detect growth in the students' innovation competences. To do so, I introduced the midterm evaluation of the project "*The Gymnasium Thought over Again*" (Nielsen, 2014). This provided a frameset and the five innovative competences: that were useful to assess if the students have increased their innovation competences. I assess that SE has a framework that enables students to increase and develop competences within all the five competences. Furthermore, the following conclusions can be drawn:

- Students tend to perform better at the oral presentation.
- The teachers have a clear focus on how the students acquire innovation competences that are relevant to authentic challenges.
- The students, teachers and local businesses are all benefiting from being part of SE.

The introduction of the diamond of innovation (Darsø, 2003) allowed me to have a perspective on how the involved partners interacted. My mini-project has argued that the involved partners switch from jester, gardener, challenger and conceptualizer. An

implication of this is the possibility that it would be fruitful if I, prior to a project, introduce the students, teachers and local business to the four roles. This could give them a better understanding of their role in the different sections of the process.

Perspective

Is innovation a constructive fit for the Danish school system? This issue has, in the light of the recent debate concerning the introduction of innovation in the Danish high school, grown in importance. During the debate, the political centre-right has raised questions about the importance and legitimacy of introducing innovation in the Danish Gymnasium. On the 1st of December 2014, the political spokesman of the Danish Conservative Party (Det Konservative Folkepart), Mai Mercado, said to TV2 News: “The most important thing is raising the students' general subject knowledge...I don’t think we should examine fluffy things like innovation.” (TV2 News, 2014). It is without question important that the students have a general subject knowledge, but the important question is how do we structure a school day and what didactics do we use to reach this goal. The recent PISA report (Egelund, 2014) shows that the Danish youth are rated as average in general subject knowledge and that we have a small elite. This tells me that we need to motivate our students through new educational didactics. I have no illusions of innovation being the sole answer to this challenge, but my mini-project indicates that an innovative learning method motivates the students. I believe that we need to take innovation seriously and start to understand that it isn’t a fluffy thing, but a very structured work method that can motivate our students to learn the general subject knowledge.

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Annexes

Annex 1

My interview can be seen through this link: https://www.youtube.com/watch?v=9TcTD-1_m7o

Annex 2

INNOVATION COMPETENCE

Jan Alexis Nielsen, IND, KU.

https://www.youtube.com/watch?feature=player_embedded&v=QbTvEaTmXAo#at=251

The action competence: Being Ventures. Bring things to life. Seek and get the right information from the right persons.

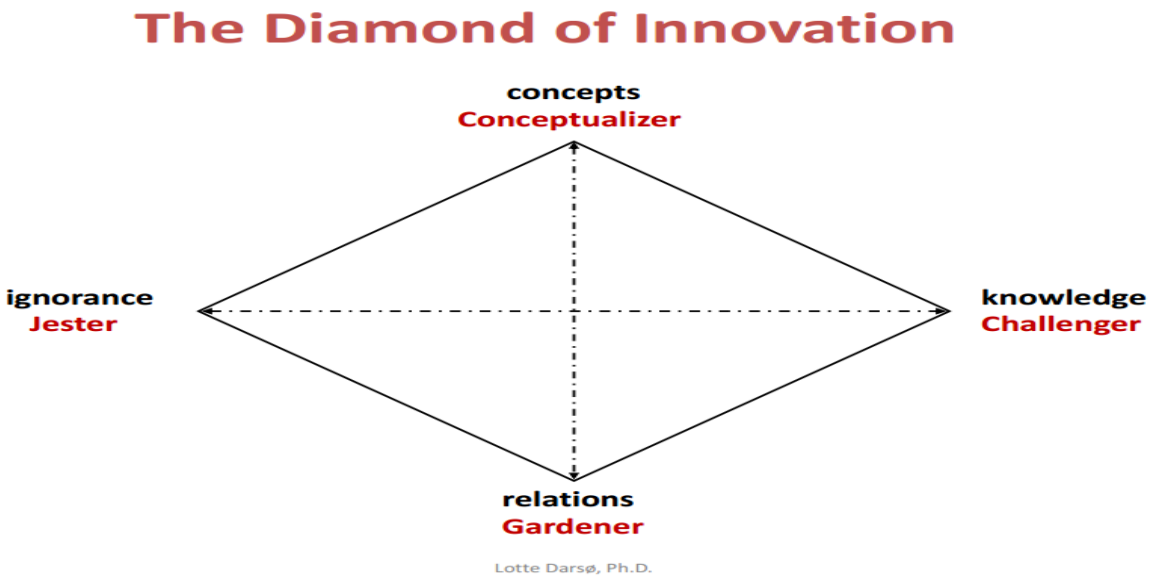
The creativity competence: Open to alternative ideas/solutions. Assess, sort and expand ideas. Able to interpret and challenge issues.

The collaboration competence: Spacious to partners I group work. Able to work in versatile constellations. Be responsible and facilitate.

The navigation competence: Decode and understand a problem. Absorb knowledge from diverse knowledge areas. Able to be conscious of lack of knowledge in a project. Master a complex process.

The dissemination competence: Able to take communication-related choices. Able to communicate engagingly. Able to master versatile communication.

Annex 3


The Diamond of Innovation
concepts
Conceptualizer
ignorance
Jester
knowledge
Challenger
relations
Gardener
Lotte Darsø, Ph.D.