



## Group Report of ARION study visit, Herning, Denmark

How can innovation and entrepreneurial culture be enhanced through school life?  
April 22 –27-2007

### 1. Purpose of Visit

**Pupils in our schools are taught by teachers who themselves have gone to school their whole lives!**

How can one expect the coming generations to develop an entrepreneurial culture, if they are not being influenced through their education? In Denmark, the government has decided that Denmark must be a leading nation within innovation, entrepreneurship and growth by the year 2010. To reach this goal, it is the intention that the spirit of enterprise shall be included in thematic teaching, from Kindergarten until the students leave the educational system. This visit will focus on the possibilities for including this aspect, and the results achieved so far. School and company visits will indicate if we are moving in the right direction, and hopefully reveal new potentials and methods. As all educational levels will be represented during the visit, the target group would be heads of schools, as well as other decision makers with a wide range of educations and representing different age groups; from pre school to primary, secondary, upper secondary, vocational and further education.

### 2. Composition of the Group



**Brigitte Plet – France**  
**Jan Kejklicek – Czech Republic**  
**Jeanne Monckton –UK**  
**Kathryn Fox-Parry –Wales, UK**  
**Maria Isabel Valente Pires – Portugal**  
**Theo A. W. Seesing – Netherlands**  
**Tiago Coelho – Portugal**

## Activities by Day

### Day 1

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Five visits:

- **Herning local authority**
- **TEKO Seeds**
- **TEKO Textile academy**
- **Institute of Business and Technology**
- **Educational Resource Centre**

All the centres that we visited today differ in purpose; however the innovative theme that was reflected in all five was the way in which the buildings reflected the areas of learning. Both the external and internal appearance captured the ethos of innovation and entrepreneurialism.

At Herning local authority offices the clean, clear, uncluttered space reflected the organization; the welcoming atmosphere was promoted by the comfortable room, the modern technology, the fresh fruit, the flowers and the friendliness of the two speakers.

At **TEKO Seeds** the room was open plan and yet included; business stations, meeting areas with welcoming sofas and contemporary furniture. The businesses working within the building were focused on innovation, creativity and entrepreneurial obligations. The way that the space was organized promoted cooperation and team work.

**TEKO Textile Academy** was bold, colorful, dynamic and bright in appearance. Once again the architecture outside and the interior design reflected the vision of the institution. The “value chain”



The vision of the **Institute of Business and Technology** is reflected in the raw materials that are used in the internal construction, for instance steel and concrete was predominant. The expanse of the building inspired the innovation of its students; the open space enhanced the eagerness of cooperation and communication.



**Educational Resource Centre** was functional, well organised and up to date. The numerous shelves are full of knowledge for the teachers of Herning. A new innovation for Denmark was the appointment of someone specifically to coordinate innovation.



## Day 2

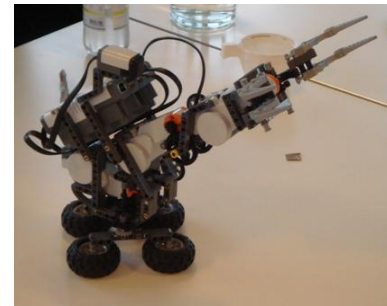
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Three visits took place today

- **LEGO Education Center**
- **Danish Foundation for Entrepreneurship Activities, and Culture - Young Enterprise Denmark**
- **Hans Christian Andersen Museum**

The whole day was focused on looking at INNOVATION from different points of view.

At **LEGO Education Centre**, we could observe how the innovative philosophy was always present during the growth of the LEGO concept. In the beginning, with wooden toys, perfection and innovation was a major advantage. With the transition to plastic made bricks, new perspectives were opened. The last twenty years are a good example of how innovation can make a difference in the competitive society of today. Nowadays, LEGO Educational Projects are concerned in helping young people to develop innovative minds.



**Young Enterprise Denmark** is an organization concerned with entrepreneurship and how it is taught. Once more we could see how innovation is important to develop an entrepreneurial generation in the future.

Danish Government is investing a lot of resources to develop innovation and entrepreneurship at all levels of the Educational system.



Innovation was also present in the **Hans Christian Andersen Museum**. In fact, the brilliant creativity of the author resulted in a very new approach to telling stories to children.



## Day 3

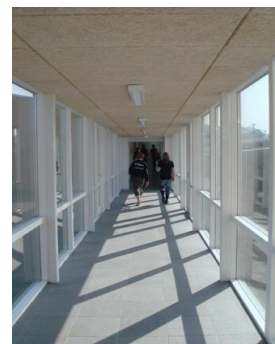
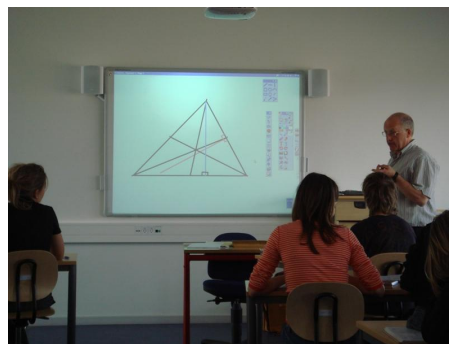
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Two visits took place today:

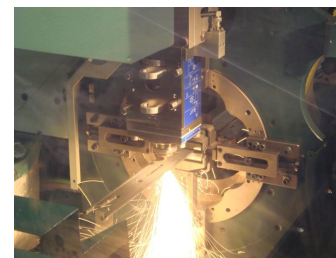
- **Vildbjerg School**
- **E.S. Staalindustri Factory**

The headmaster of **Vildbjerg Skole** Mr. Ole Vestenaa showed us his new school which was only 3 months old. The school was built on green fields between two villages with 5 and 7 thousand inhabitants. The total area of school is 71.000 m<sup>2</sup>. For 615 pupils, there are 47 teachers and 19 pedagogs who are employed to supervise children after 3.30pm.

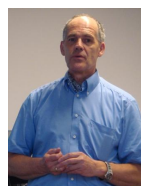
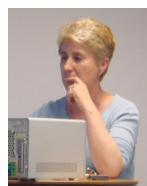
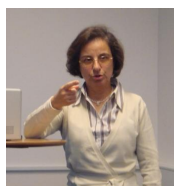
The group was impressed with the sport, drama and music facilities as well as the laboratories for physics, chemistry, biology and cooking. An interesting feature was a very large hall as a place for meetings, for drama, physical education and other activities. All classrooms had interactive whiteboards which enhanced innovative teaching methods.



In the afternoon we visited the **machinery factory** E.S. Staalindustri in Vildbjerg. The owner of the company Martin showed us how heavy industry can survive despite the fact that much of his sort of production is now taking place more cheaply in the Far East. The factory is in operation 24 hours a day in shifts of 8 hours.



During the last part of the day we returned to The **Educational Resource Centre** in Herring where the members of the study visit made their own presentation. It was very interesting to hear about education in other European countries.



## Day 4

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Three visits took place today:

- **Holstebro Technical College**
- **Residential Continuation School, Hardsyssel Efterskole**
- **Cafe Utopia**

An extensive **technical college** that reached out to all age groups and provided many opportunities for vocational training: painting and decoration, carpentry, cookery. Innovation played an integral part of the student's education and this was very apparent in the work of the students and was also captured in the detailed displays.

Employers were welcomed into the College to observe the students at their work and also worked alongside the student's on specific programmes. This certainly enhanced the technical skills of the students and also promoted social learning, both for the employers and the students.



A **Residential School** for pupils aged 14<sup>th</sup> to 16<sup>th</sup> where parents contribute up to 40% to the pupils' education. Pupils can enroll for 1 to 3 years.

The school serves as a microcosm of society and aims to develop the social and organizational skills of its pupils. This is effectively done through weekly projects that challenge and enhance pupils' life skills.

On speaking to several of the very confident students, they felt that the school help them to increase their confidence, what they wanted for their future and make friends for life. This reflected the Government's aim and its intention to develop responsible citizens.



After a tasty traditional Danish meal, which was served by impeccably manner waiters and waitresses, the group was amazed to discovery that this cafe provides employment for people with psychological illnesses.

**Café Utopia** is managed by a teacher, a nurse and a chef. All the other employees are those with illness. This business venture is extremely successful both as a profit making concern and in providing long-term employment. Accordingly to one waiter, working at Café Utopia has been much better for him than any medicine from a Doctor.

This innovative Commune funded project is a creative way of employing people who would be unemployable elsewhere.



## Definitions and Highlights

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- **Creativity** is “The ability to generate new ideas”
- **Innovation** is “The ability to generate new ideas, which have value to other people, because they can use it or enjoy it”
- **Steps in Innovation Process**
  1. Setting the scene – choosing the theme
  2. Idea generation
  3. Concept Definition
  4. Planning
  5. Development of prototypes
  6. Launch the product/service/event,etc.
  7. Evaluation and reflection
- **The AAA Challenge:**
  - Asia Outstanding
  - Automation all over
  - Abundance of goods
- **LEGO Education Statement** “...thereby enabling children to develop the skills necessary for them to be able to embrace the challenges of the future in the Creative Society”
- “Your hands know a lot more than you think they know! Your hands know things that your mind doesn’t know that it knows!”
- *Papert* says: “**Constructivism** means learning by making something. Making something that you can identify with – be proud and think – it is my thing. What you learn in the process of making things that you care about sinks much deeper, its roots goes deeper into the subsoil of the brain than what anyone can tell you”
- **Danish Foundation for Entrepreneurship, Activities, and Culture** aims to strengthen Denmark’s competitiveness by having affect on attitudes to and interests in entrepreneurship, self-reliance, and innovation – primarily through efforts in the educational sector and To contribute to making Denmark one of the leading European countries for intra- an entrepreneurship

## Conclusions

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The week has met its aim. The experiences have been diverse covering examples from the education system in Herning. The experiences undertaken have underlined the Government dictate that entrepreneurial skills should be developed in Denmark.

It was evident that successful projects were led by energetic, enthusiastic managers who believed in what they were doing, and invested in their staff. These managers promote harmonious interpersonal relationships.

We have seen the intention in Herning to provide an entrepreneurial experience for younger children. This is evidenced in the fact that an appointment has been made for personnel to produce support materials for younger children and further develop this teaching into the secondary sector in partnership with Young Enterprise.

The group was impressed by the open mindedness of the people they visited. The architecture, interior design and furniture were creative and innovative. The condition for innovation is indeed innovation itself. Open minds, open spaces and open hearts have created the conditions from which the seeds of innovation grow and produce entrepreneurs.

The people of Herning have embraced change. The members of the group sincerely believe that the government have identified the need and Danish people have risen to the challenge.

## Development Areas

A development area is to find ways to measure the impact of the Government's focus of entrepreneurialism. Success criteria and or research would enable Denmark to communicate their success to other nations.

Local Herning Authority should be aware of the fact that with the entrepreneurial focus there may be a possibility for the demise of other curriculum areas. A good balance of learning opportunities must continue to be ensured for all pupils.

With an increased competitive focus it would be sad if this harmony and personal development that the group witnessed were to be allowed to deteriorate.

## Useful links

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[www.ciriusonline.dk](http://www.ciriusonline.dk) (CIRIUS)

[www.ug.uk](http://www.ug.uk)

<http://eng.uvm.dk/publications/innovation>

[www.teko.dk](http://www.teko.dk) (TEKO)

[www.hih.au.dk](http://www.hih.au.dk) (Institute of Business and Technology)

[www.businessfactory.dk](http://www.businessfactory.dk) (Business Factory – Aarhus University)

[www.lego.com/education](http://www.lego.com/education) (LEGO Education)

[www.ye.dk](http://www.ye.dk) (Young Enterprise Denmark)

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