# Focus on Mini-Companies in Schools

## A summary of research, documentation and studies done on the impact of the JA Company Programme

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THE ENTREPRENEURIAL SCHOOL AWARDS 2016

# About ENRI
# Center for entrepreneurship in primary and secondary education and training

- The Eastern Norway Research Institute (ENRI) is located in Lillehammer, Hamar and Trondheim, Norway

- Six researchers at ENRI are currently involved in studies on entrepreneurship education

- Entrepreneurship education is one three main research fields for ENRI, and from January 1 2017 a new research center is established:

**Center for entrepreneurship in primary and secondary education and training (CEPSET)**

# About ENRI
# Objectives for CEPSET

CEPSET will be an internationally oriented, interdisciplinary research center that develops knowledge on how education should be organized and implemented to help children and youth develop entrepreneurial skills

1. Improved quality of research
2. Increased publishing in international journals
3. Increased resources for research.
4. Recruitment to research fellowships
5. Testlab for development of entrepreneurial work methods

# About ENRI
# Entrepreneurship education projects

## Recent policy evaluations

2010-2015: Evaluation of the Action Plan for entrepreneurship education
2011-2012: Evaluation of the Action Plan for more female entrepreneurship

## Recent impact studies

2015-2018: Innovation cluster for entrepreneurship education
2016-2017: Entrepreneurship education in the mountain areas of Norway
2008 & 2015: Evaluation of entrepreneurship education in Namibia
2011-2013: Learning outcomes of entrepreneurship education
2011: Evaluation of entrepreneurship education in Uganda
2011: What happened later – long-term impacts of the Company Programme
2010-2011: Perspectives and status on entrepreneurship education

# Impact of CP
# Main studies : Net samples and response rates

| | Lower secondary school | Upper secondary school |
|---|---|---|
| **Short –term impact** | 15-16 | 17-18 |
| 2012 Norway | 1880 (84) | 1160 (81) |
| 2008 Norway | 1713 (75) | 1453 (76) |
| | | |
| **Long-term impact** | | |
| 2011 Norway | | 1187 (30) |
| 2007 Belgium, Norway, Slovakia, «other» | | 977 (41) |

# Impact of CP
# Some challenges to research designs

- Difficult to isolate and document the effects of CP
  - compare a test group (CP-participants) and a control group (non-CP)
- Non-randomness of students in the CP-group and the non-CP-group
  - control for other relevant variables
- Self-selection to CP
  - focus on students that have CP as a mandatory project
- Within group variations
  - ask about the role each student had in the CP and time used

# Impact of entrepreneurship education
# The Norwegian Action Plan

Competence in entrepreneurship is relevant for all areas of working and business life, in both new and established activities and enterprises

**Develop personal qualities and attitudes**

- Ability and willingness to take the initiative
- Innovation and creativity
- Willingness to take risks
- Self-confidence
- Ability to collaborate and social skills

Learn **subjects and basic skills** through the use of entrepreneurial working methods

**Learn knowledge** and **skills** concerning business development and innovative processes

# Impact of CP
# Perceptions of entrepreneurs (17-18 y)

*An entrepreneur is someone who*

- wants to use his/her creativity (85%)
- who wants recognition by society (43%)
- who is not well educated (7%)
- who cannot find other job (6%)

*CP-participants are more likely than non-participants to agree that:*

- An entrepreneur is someone who wants to use his/her creativity
- An entrepreneur is someone who wants recognition by society

*CP-participants are less likely than non-participants to agree that:*

- An entrepreneur is someone who cannot find other job
- An entrepreneur is someone who is not well educated

Johansen, V., Clausen, T.H. & Schanke, T. (2013). Entrepreneurship education and boys`and girls` perceptions of entrepreneurs. International Journal of Entrepreneurship and Small Business, 19 (2), 127-141.

# Impact of CP
# Career preferences (17-18 y)

'If you could choose between being self-employed and being an employee, what would you prefer?'

- 32 % preferred self-employment in 2012
- 37 % preferred self-employment in 2008
- CP-participation increases the proportion that prefer self-employment
- CP-participation reduces gender differences as regards career preference

| | CP | Non-CP |
|---|---|---|
| Prefer to be self-employed (2012) | 38 | 26 |
| Prefer to be self-employed (2008) | 43 | 34 |

Johansen, V. & Clausen, T. (2011). Promoting the entrepreneurs of tomorrow: entrepreneurship education and start-up intentions among schoolchildren. International Journal of Entrepreneurship and Small Business
Johansen, V. (2016). Does the Company Programme have the same impact on young women and men? A study of entrepreneurship education in Norwegian upper secondary schools. Journal of Education and Work.

# Impact of CP
# Business skills (17-18 y)

'Do you have the necessary knowledge and skills to start a new business?'

- 37 % state that they have the necessary skills/knowledge
- CP-participation increases the proportions of respondents that report that they possess the necessary skills and knowledge to start a business
- CP-participation reduces gender differences with regard to skills/knowledge

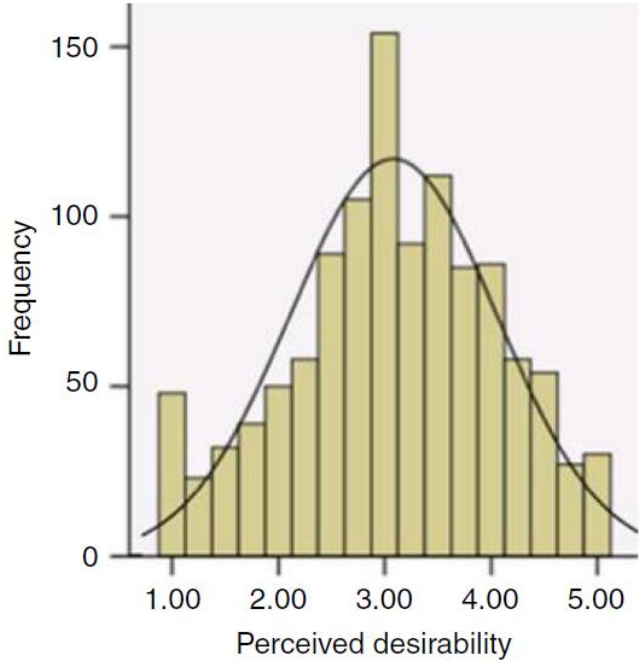
| Involvement in CP | Men | Women | $\chi^2$ test |
|---|---|---|---|
| *Yes, I possess skills/knowledge to start a business* | | | |
| Non-participation in CP | 35 | 22 | $p<0.01$ |
| Compulsory CP-participation | 55 | 50 | $p>0.05$ |
| $\chi^2$ test participation in CP | $p<0.01$ | $p<0.01$ | |

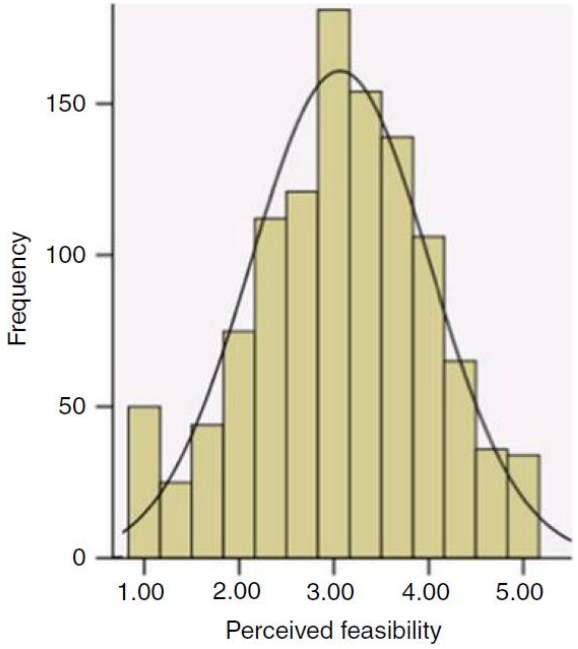
Johansen, V. (2016). Does the Company Programme have the same impact on young women and men? A study of entrepreneurship education in Norwegian upper secondary schools. Journal of Education and Work.

# Impact of CP
# Desirability and feasibility of self-employment (17-18 y)

Perceived desirability refers to the degree to which one feels attraction for a given behaviour (4 items)

Perceived feasibility refers to the degree to which people consider themselves personally able to carry out certain behaviour (3 items)



# Impact of CP
# Desirability and feasibility of self-employment (17-18 y)

| Involvement in CP | Men | Women | *t*-Test men-women |
|---|---|---|---|
| *Perceived desirability* | | | |
| Non-participation in CP | 3.2 | 2.8 | $p < 0.01$ |
| Compulsory CP-participation | 3.3 | 3.2 | $p > 0.05$ |
| *t*-Test participation in CP | $p > 0.05$ | $p < 0.01$ | |
| *Perceived feasibility* | | | |
| Non-participation in CP | 3.1 | 2.7 | $p < 0.01$ |
| Compulsory CP-participation | 3.5 | 3.3 | $p > 0.05$ |
| *t*-Test participation in CP | $p < 0.01$ | $p < 0.01$ | |

- CP-participation increases perceived desirability and feasibility of S-E
- CP-participation reduces gender differences with regard to perceived desirability and feasibility of self-employment

Johansen, V. (2016). Gender and self-employment: the role of mini-companies. Education + Training

# Impact of CP
# Career preferences & business skills (25 y)

| *Skills and knowledge and prefer self-employment combined* | *Men 'yes'* | *Women 'yes'* | *$\chi^2$ test* |
|---|---|---|---|
| Non-participation in CP | 28 | 13 | $p < 0.05$ |
| Participation in CP | 36 | 21 | $p < 0.05$ |
| $\chi^2$ test | $p < 0.05$ | $p < 0.05$ | |
| N | 659 | 528 | |

- CP-participation increases the proportion of people that perceive they have the combination (knowledge and business skills and prefer self-employment)
- CP-participation does not reduce gender differences to a significant degree

Johansen, V & Foss, L. (2013). The effects of entrepreneurship education - does gender matter? International Journal of Entrepreneurship and Small Business

# Impact of CP
# Start-up activity (25-30 y)

"Have you, on your own, or in collaboration with others, tried to start a new business?"

| *Percentage* | *2007 (6 countries)* | *2011 (Norway)* |
|---|---|---|
| No, and have no intention to start a business | 56 | 62 |
| No, but would like to start a business | 30 | 23 |
| **In the process of starting a business** | **4** | **5** |
| **Have established a business** | **10** | **10** |
| Sum | 100 | 100 |

# Impact of CP
# Start-up activity (25-30 y)

- Previous CP-participants are more likely to be involved in start-up activity compared to non-participants
  - 17% in the CP-group vs 13% in the non-CP-group
  - 45% reported that the CP-participation was highly significant

- Participation in the CP increases the likelihood of being involved in start-up activity before turning 25 years of age and the completion of a university degree
- The impact of CP-participation was stronger for men than women

Johansen, V. (2010). Entrepreneurship education and entrepreneurial activity. *International Journal of Entrepreneurship and Small Business*
Johansen, V. (2013). Entrepreneurship education and start-up activity: A gender perspective. *International Journal of Gender and Entrepreneurship*

# Impact of CP
# Gender and start-ups (18y … 25y)

- Increasing female start-up activity is a focal point for many governments, because of persistent empirical findings that women are underrepresented in entrepreneurship
- EE and CP is touted as a particularly important means to promote entrepreneurship among females

- Short-term (18y): The impact of CP is greater for women than men
  - Reduced gender differences (career preferences and business skills)
- Long-term (25y): The impact of CP is greater for men than women
  - Increased gender differences (career preference and experience with entrepreneurial activity) and reduced gender difference (business skills)

# Impact of CP
# School performance in USS (16-19y)

- Various policy documents point out the possibility that entrepreneurship education can improve school performance, such as capacity to learn subjects and basic skills

- We have looked into the Grade Point Average (GPA)

- Results from studies in 2008, 2011 and 2012 point out that there is no variance in GPA between participants in CP and other entrepreneurship projects and non-participants

Johansen, Vegard. (2014) Entrepreneurship Education and Academic Performance. Scandinavian Journal of Educational Research.
Johansen, V. & Schanke, T. (2014). Entrepreneurship projects and pupils' academic performance: A study of Norwegian secondary schools. European Educational Research Journal

# Impact of CP
# School performance in LSS (14-16y)

- There is no difference in the GPA between participants in “other” entrepreneurship projects and non-participants in LSS

- **CP-participants in LSS have a higher GPA than non-participants**

- It could be that the dissimilar results in USS and LSS reflect the way the CP is constructed at different education levels
  - Interdisciplinary and connected to competence aims in subjects in LSS
  - More emphasis on business start-up in USS

Johansen, V. & Schanke, T. (2014). Entrepreneurship projects and pupils' academic performance: A study of Norwegian secondary schools. European Educational Research Journal

# Impact of CP
# School performance and special education (14-16y)

- Is CP a suitable working method for improving academic performance among pupils with special needs?
- The use of special education increases with age, and 12% of pupils in 10th grade received special education
- Pupils receiving special education perform significantly less well in Norwegian, English and Mathematics when compared to pupils who do not receive special education
- There is a need for teaching methods that potentially have a positive impact on the academic performance of pupils receiving special education

# Impact of CP
# School performance and special education (14-16y)

| Mean grades for selected groups | Norwegian | English | Mathematics |
|---|---|---|---|
| All respondents | 3.9 | 3.9 | 3.6 |
| *Special education, but no PEP: mean grade* | *3.2* | *3.2* | *2.9* |
| *Special education and PEP: mean grade* | *3.6* | *3.4* | *3.1* |
| No special education and no PEP: mean grade | 4.1 | 4.1 | 3.9 |
| No special education and PEP: mean grade | 4.1 | 4.1 | 3.9 |

- Pupils without special education have best grades
- Among pupils receiving special education, pupils having participated in PEP have higher grades in the relevant subjects compared to non-participants
- CP-differences are still significant after control for other relevant factors

Johansen, V. & Somby, H.M. (2015). Does the "Pupil Enterprise Programme" influence grades among pupils with special needs? Scandinavian Journal of Educational Research

# New research
# Innovation Cluster for Entrepreneurship Education

- ICEE is a project in Belgium, Estonia, Finland, Italy and Latvia
- A 27-month field trial using mini-companies in secondary schools: 20 test schools and 5 control schools
- The main data collection is web-based surveys to students, teachers parents and business people in 2015-17
- The design allows comparisons of three groups of respondents:
  - Students/teachers/parents with mini companies
  - Students/teachers/parents without mini companies at the same school
  - Students/teachers/parents without mini companies at another school

# ICEE
# Main research questions

- What kind of learning outcomes can be identified?
  - learning in other subjects and basic skills
  - entrepreneurial ambitions and potential
  - general entrepreneurial abilities (creativity, problem-solving, cooperation)
  - school motivation and presence

- What kind of hindrances and drivers can we identify for entrepreneurship education generally and mini-companies specifically?

- Can we identify any community effects (parents, volunteers, local community and NGOs)?