



# 21st Century Skills

A student perspective

Research group, 4 June 2019

Research Centre  
Business Innovation



UNIVERSITY OF  
APPLIED SCIENCES

# Researchers

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Research Centre  
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# Agenda

- Motivation
- The concept of “21st century skills”
- Research questions and objectives
- Research design and process
- Results
- Future research

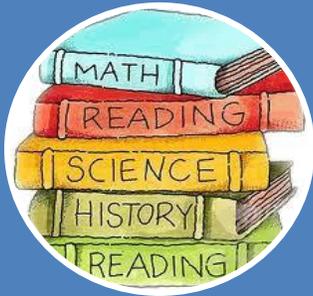
# Motivation for this research

1. Changing society and labour market/transition into next economy
2. Perspective from students on 21st century skills unknown

# Research objectives

1. To clarify the concept of 21st century skills for RUAS
2. To define whether existing curricula need to be adjusted to be in line with the 21st century skills students already possess or deem important to further develop

# The concept of "21st century skills"



## Foundational literacies

- Literacy
- Numeracy
- Scientific literacy
- Internet, Media Technology literacy
- Financial literacy
- Cultural & civic literacy
- Environmental literacy



## Competencies

- Critical thinking / problem solving
- Creativity
- Communication
- Collaboration
- Entrepreneurship



## Life skills

- Curiosity
- Initiative
- Persistence
- Adaptability
- Leadership
- Social & cultural awareness
- Health and psychological awareness

# Research questions

## **Central question:**

Which 21st century skills do Rotterdam UAS students think they need to develop during their studies in order to increase their employability?

## ***Sub-questions:***

*1 What are the student's perceptions of the importance of 21st century skills for future employment?*

*2 To which level have they already acquired 21st century skills at the beginning of their study?*

*3. What is the student's perception of the importance of experiences in an international setting on the development of 21st century skills?*

# Research methods

## Mixed method

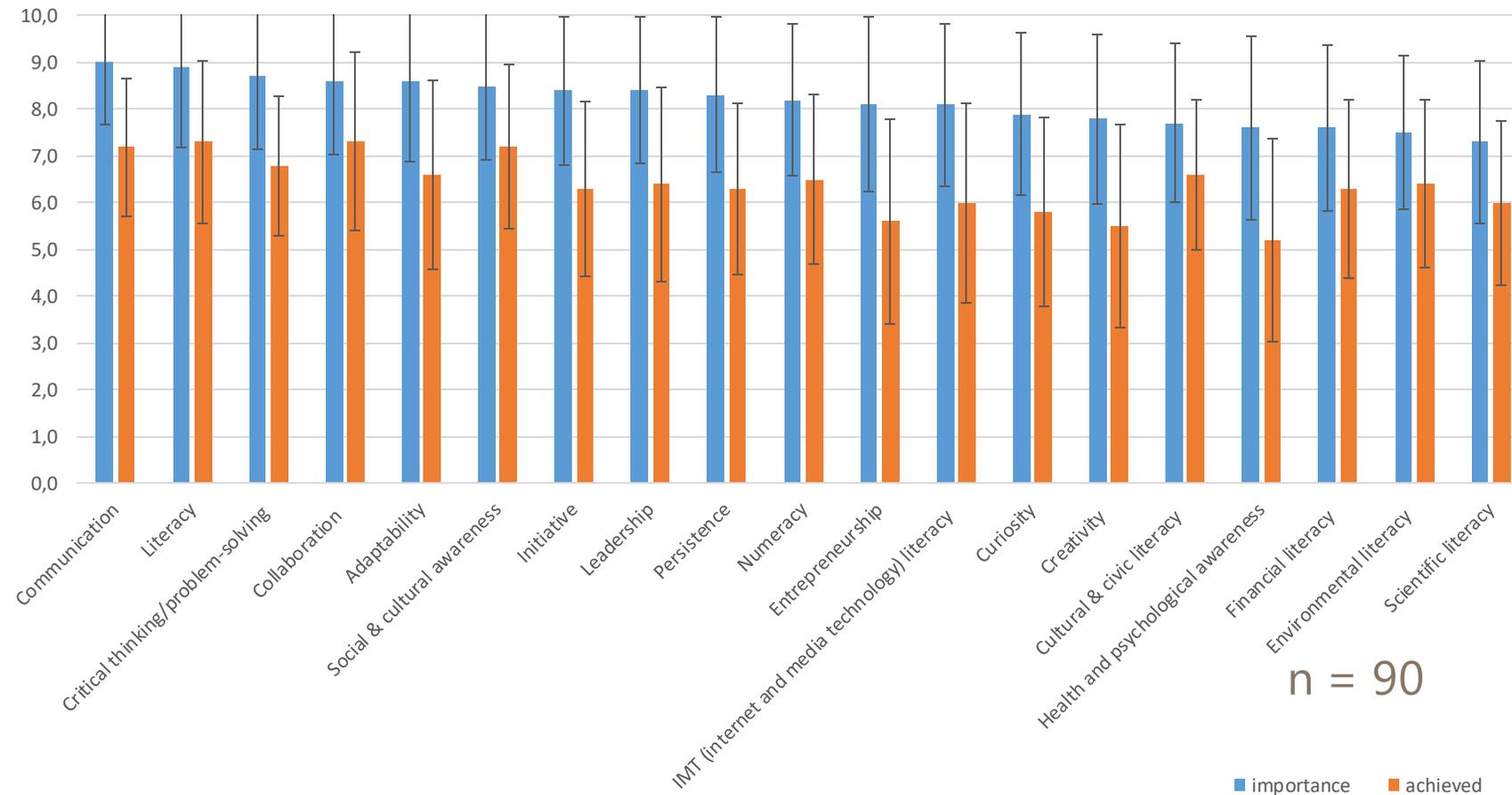
1. Desk research
2. Focus group - RBS
3. Pilot study - 2nd year RBS (IBMS students)
4. Survey 1st year students – CMI, IBK, RBS and WdKA



## Results from the pilot study

# Results – Pilot study

Pilot study 21st Century Skills - 2nd Year IBMs students



n = 90

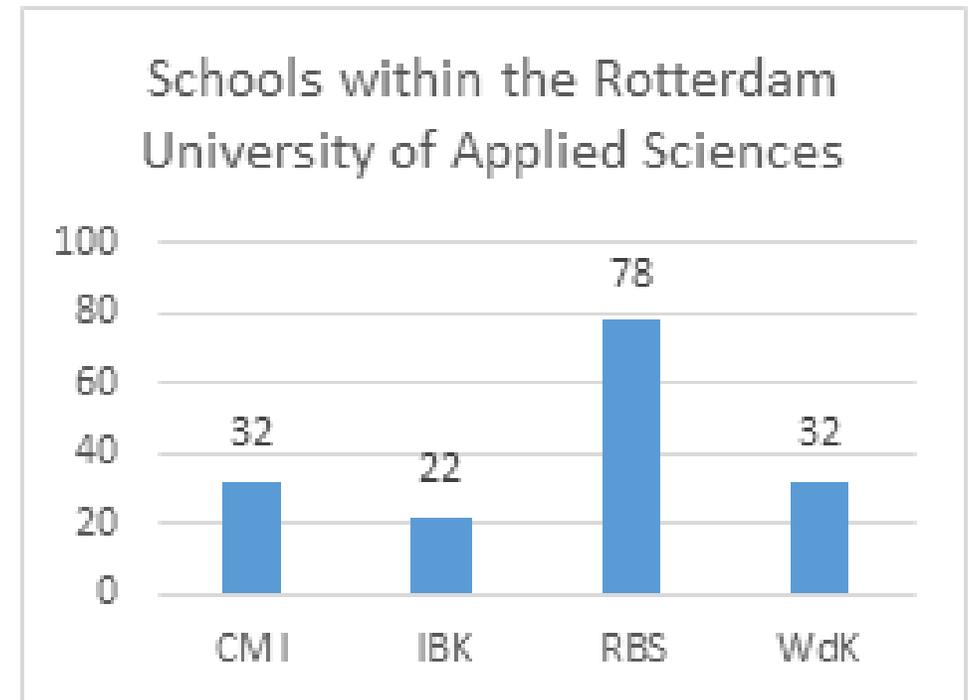
■ importance ■ achieved



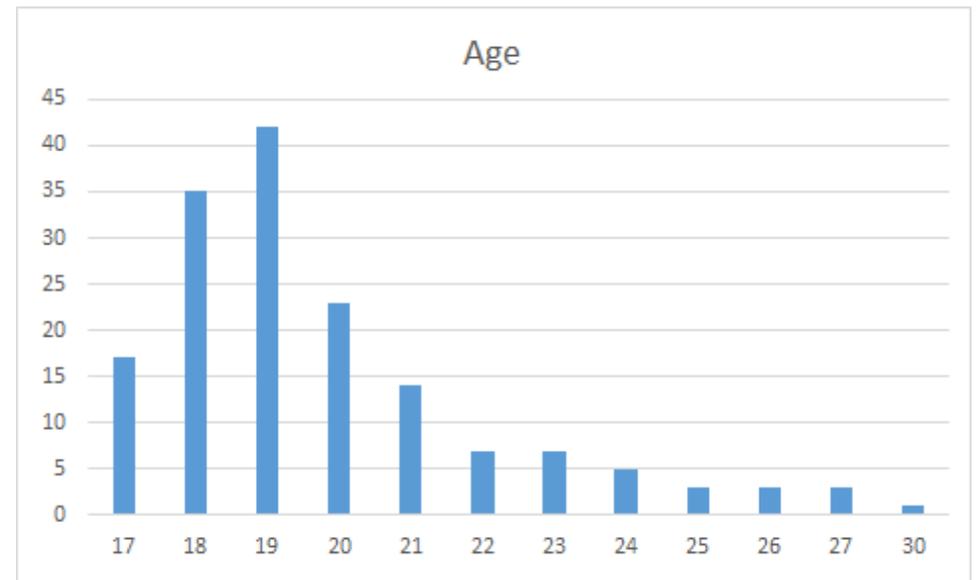
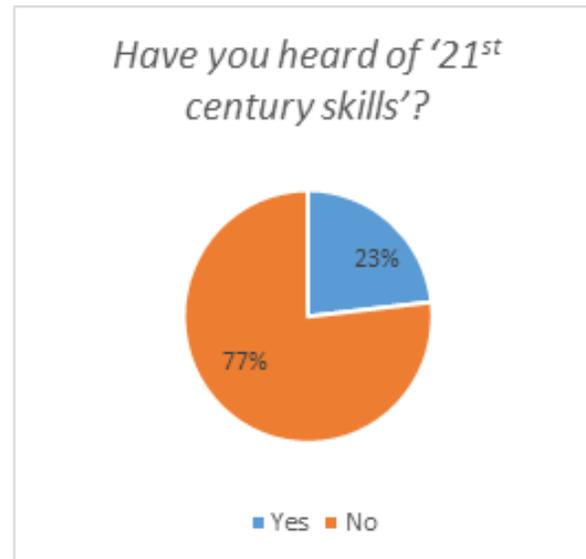
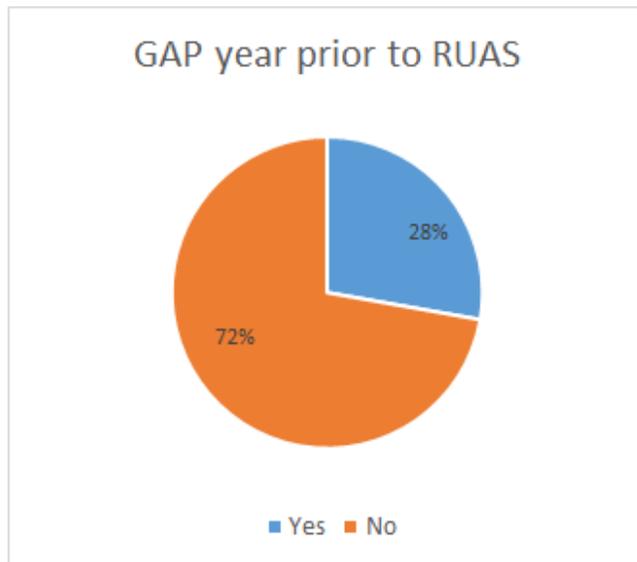
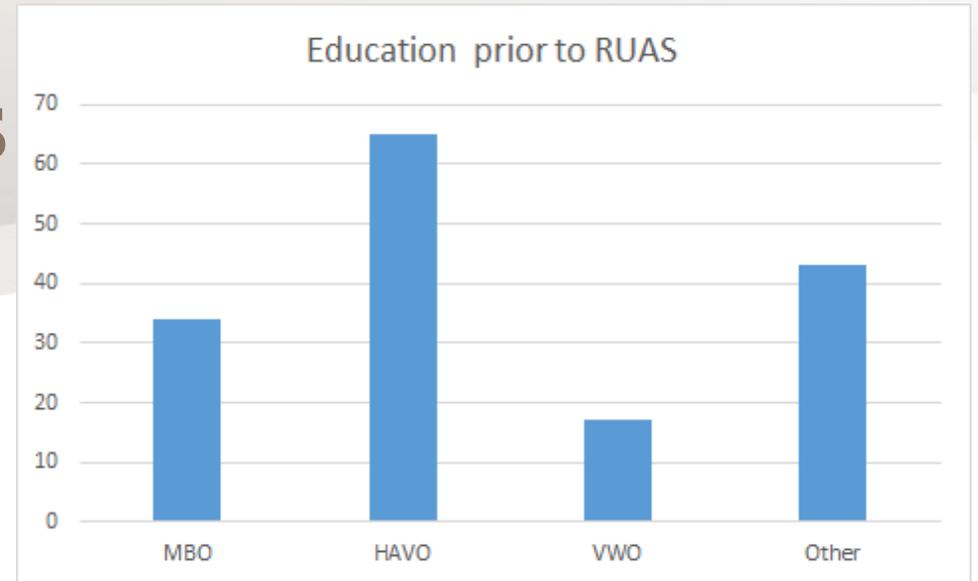
## Results from the surveys

# Results – 1st year students

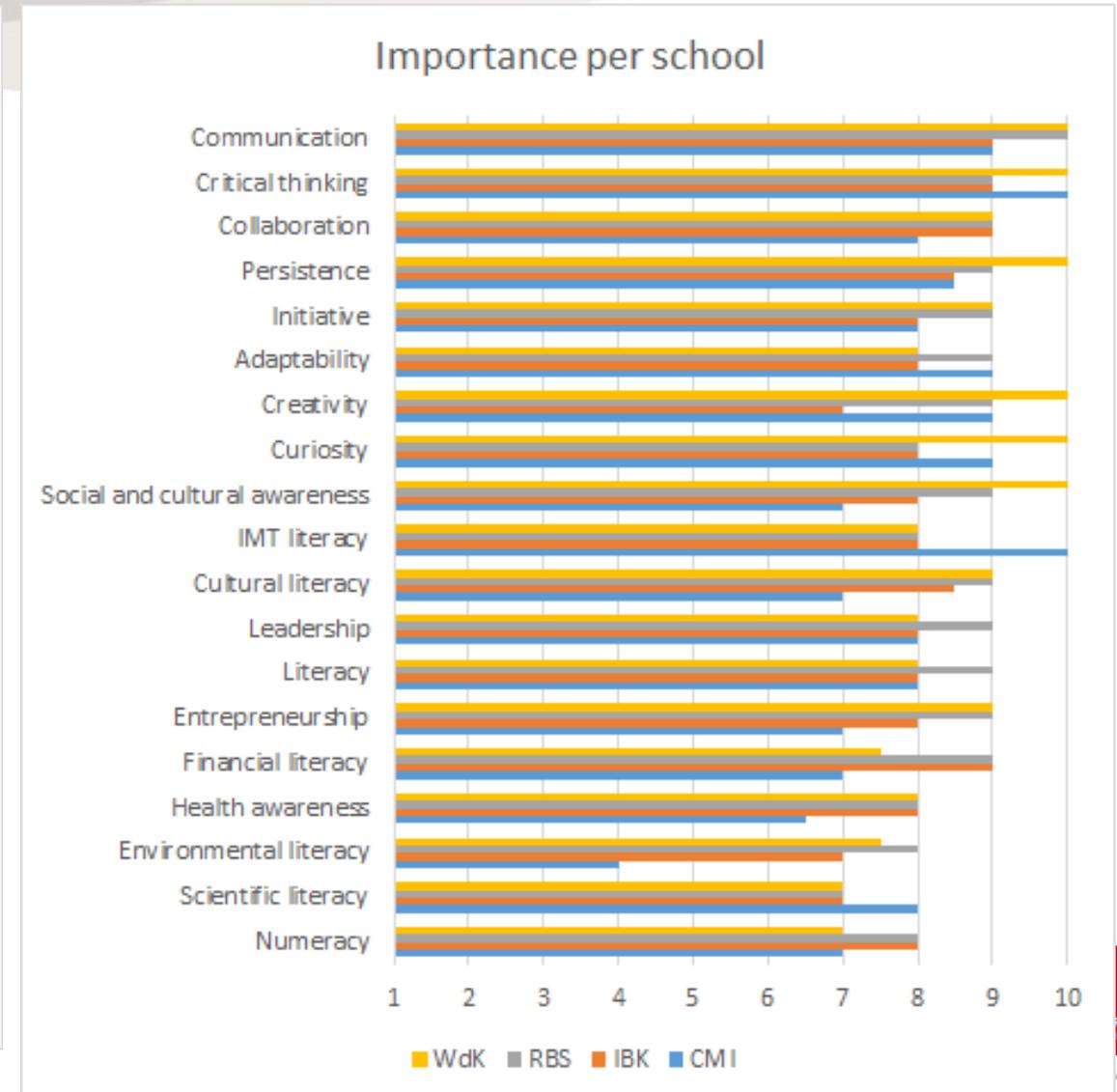
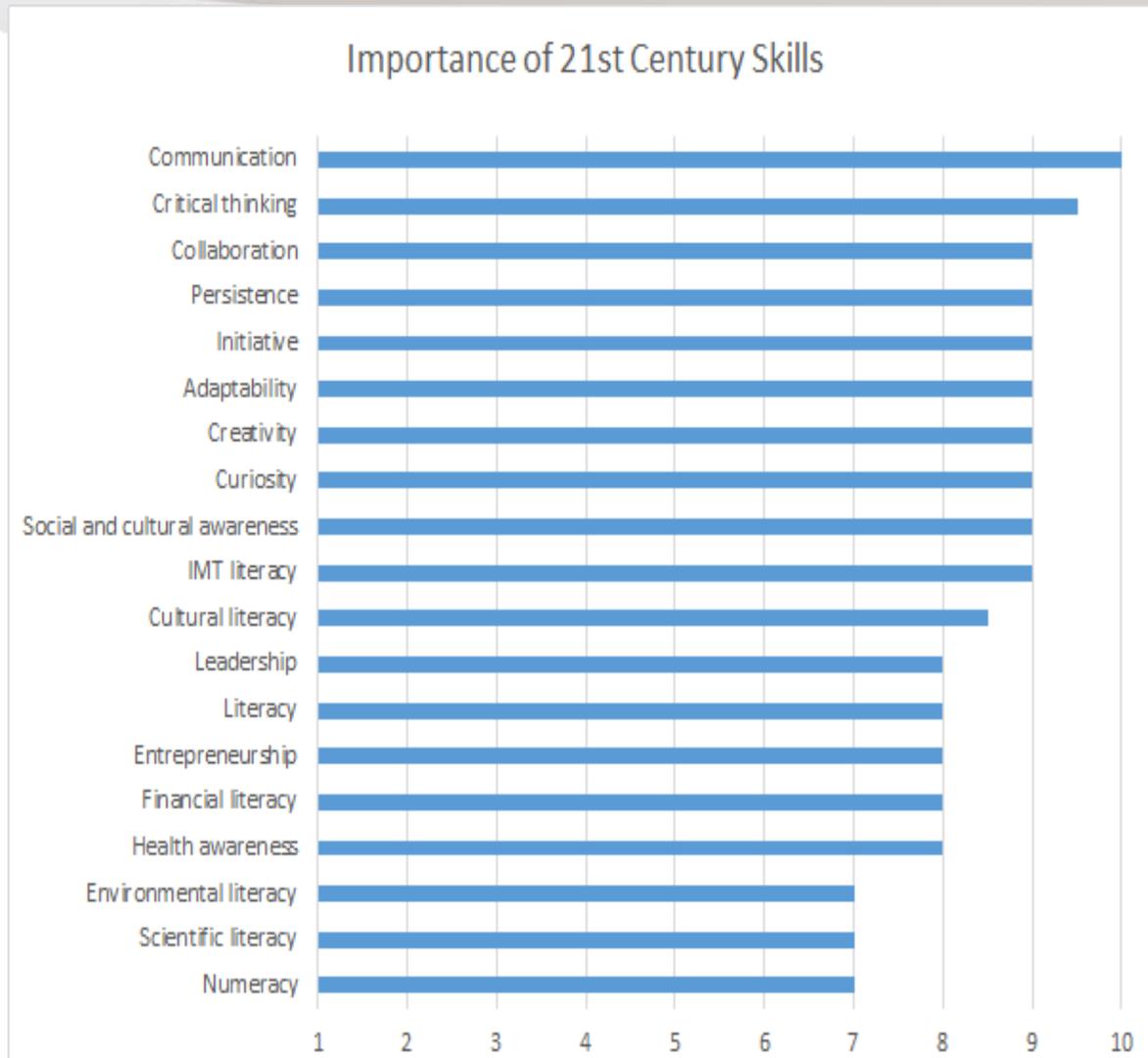
	Total	Sample 2016	2016	Sample 2017	2017
CMI	32	15	1147	17	1369
IBK	22	7	779	15	858
RBS	78	48	1504	30	1517
WdK	32	8	864	24	895
Total	164	78	4294	86	4639



# Results – 1st year students

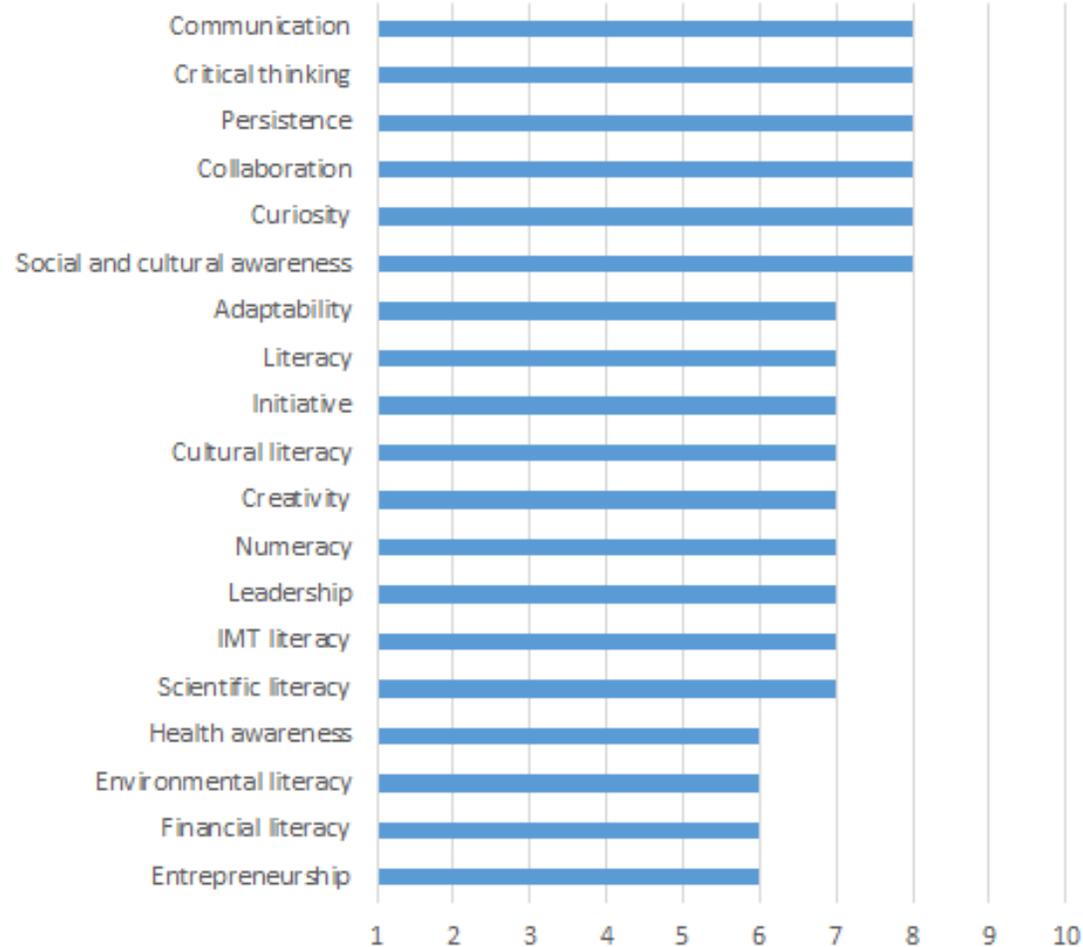


# Results – Importance of 21st Century Skills

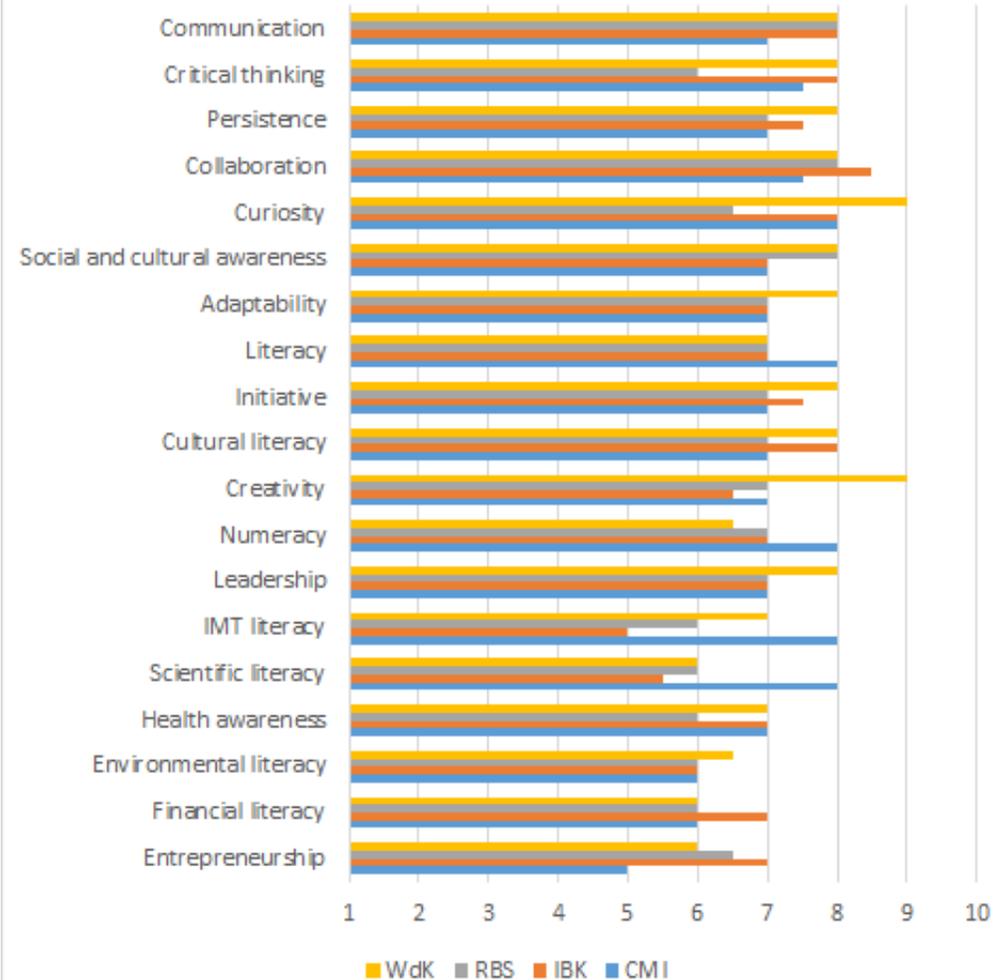


# Results – Already developed 21st Century Skills

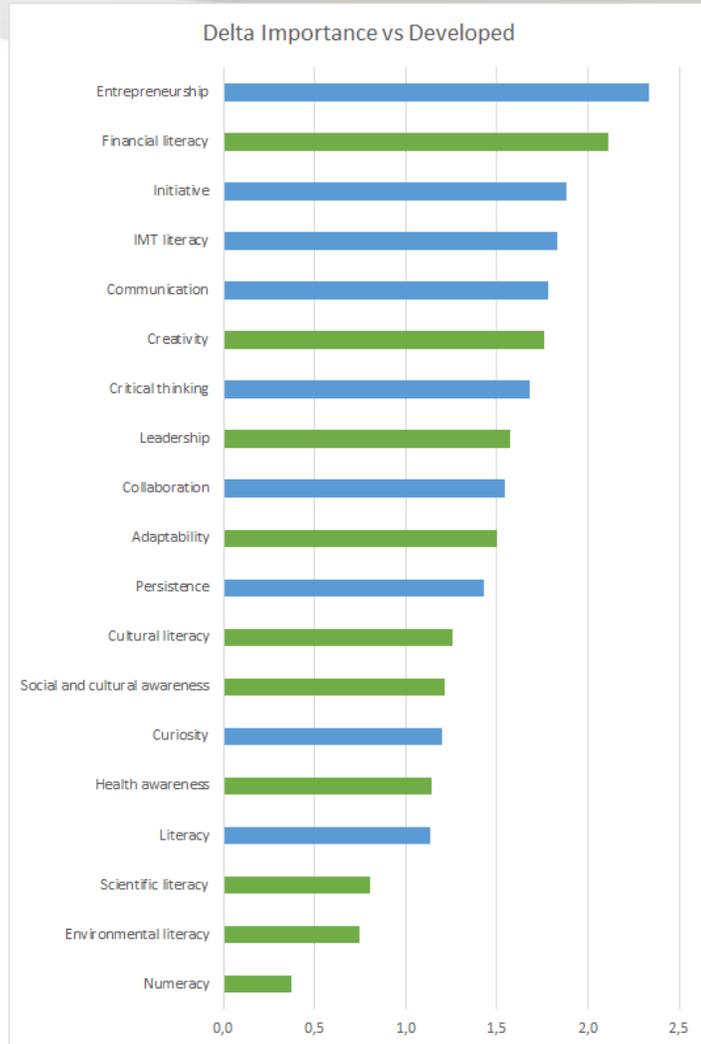
Developed 21st Century skill prior to RUAS



Developed 21st Century Skill per school

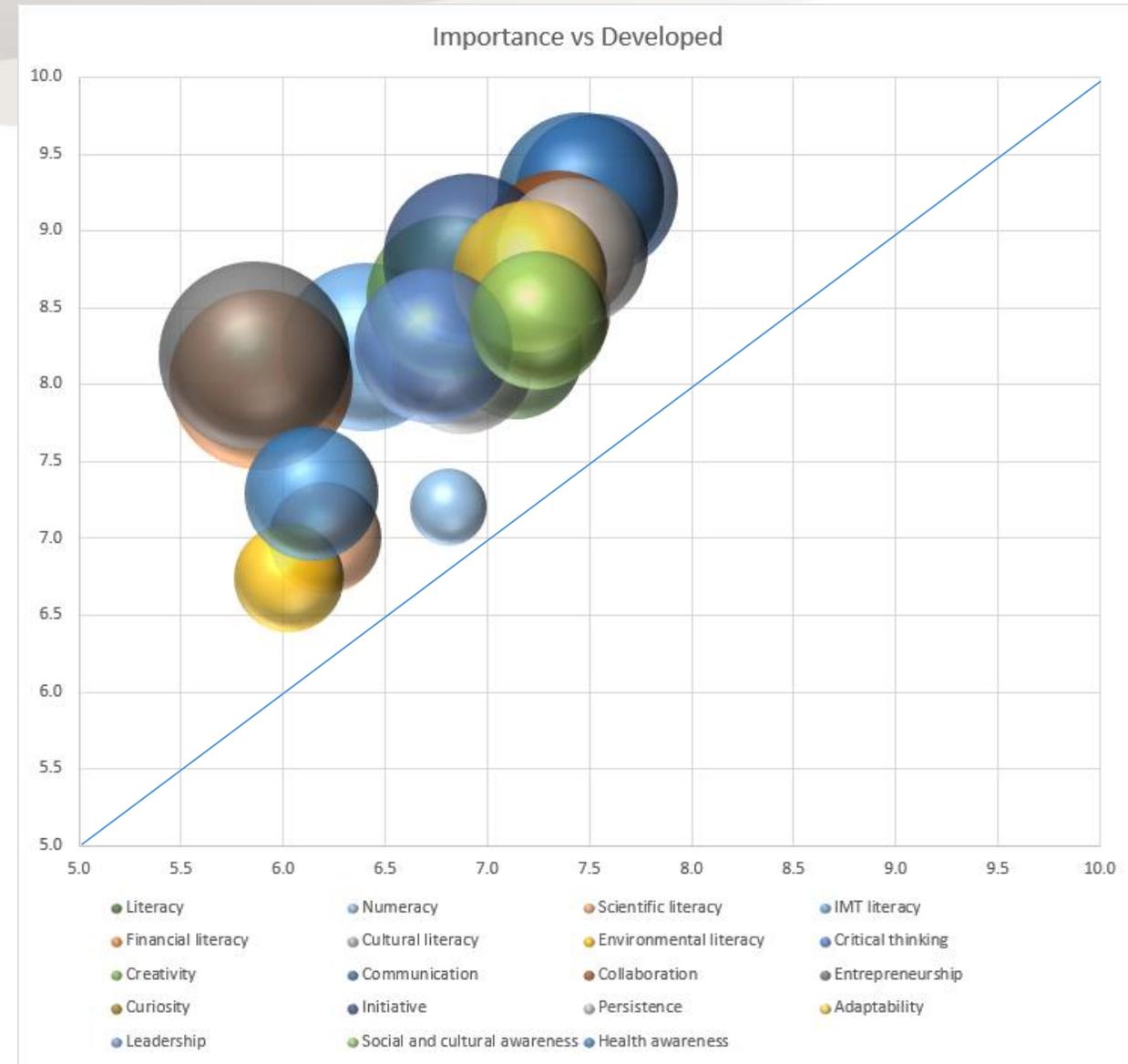


# Results – 21st Century Skills

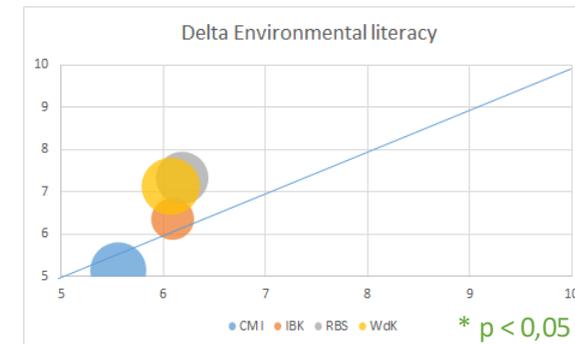
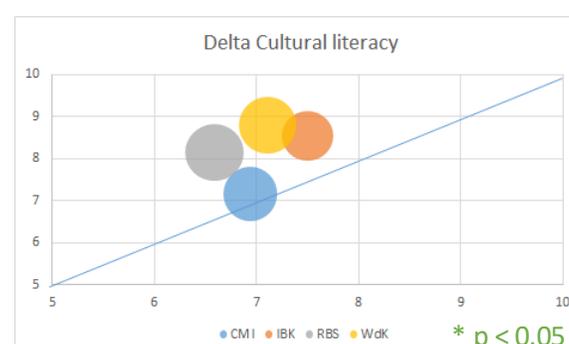
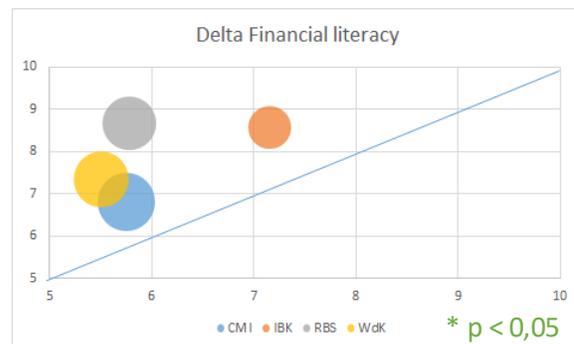
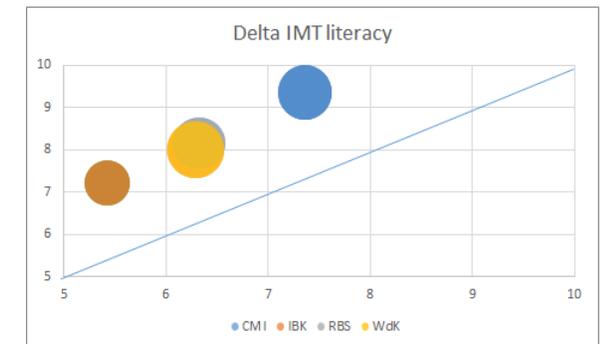
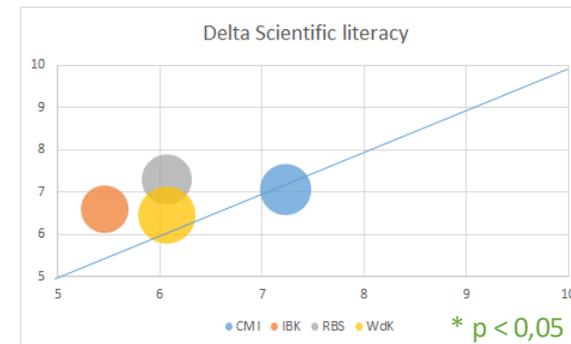
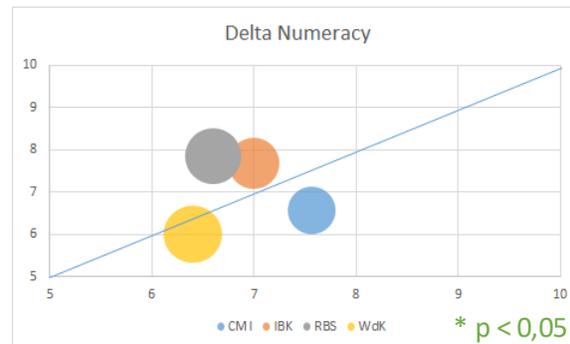
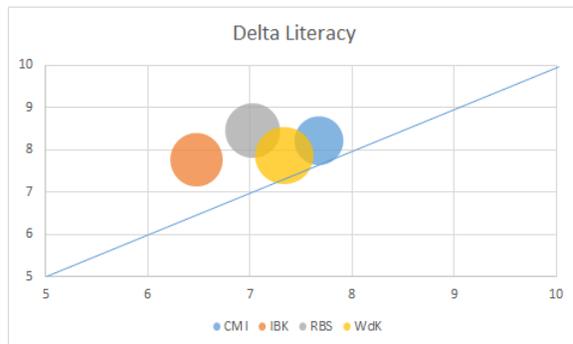


Green  $p < 0,05$

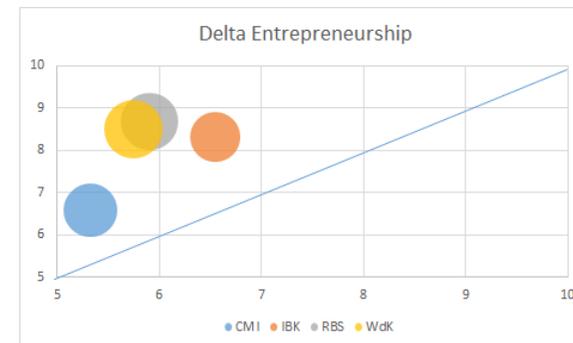
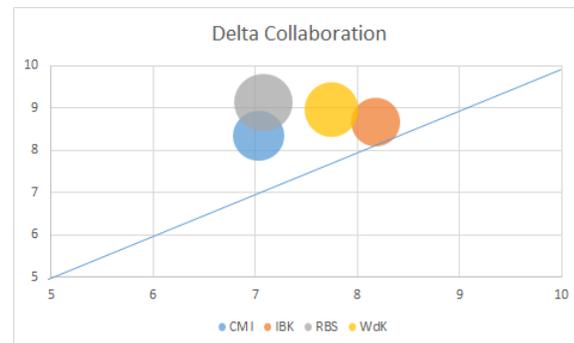
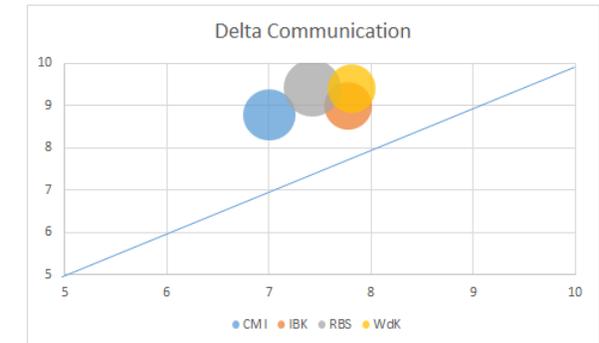
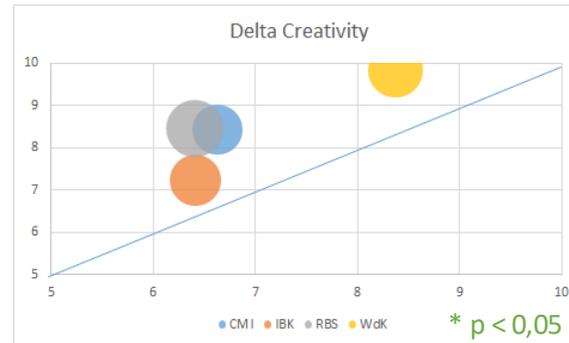
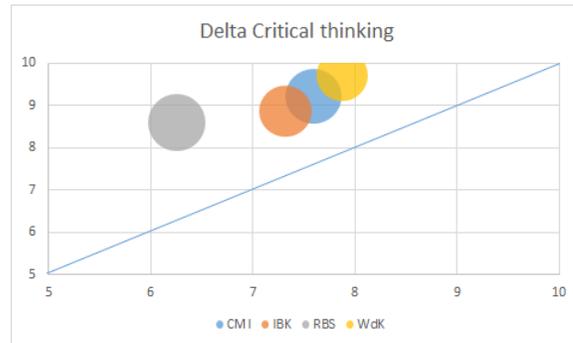
Blue  $p > 0,05$  (not significant between schools)



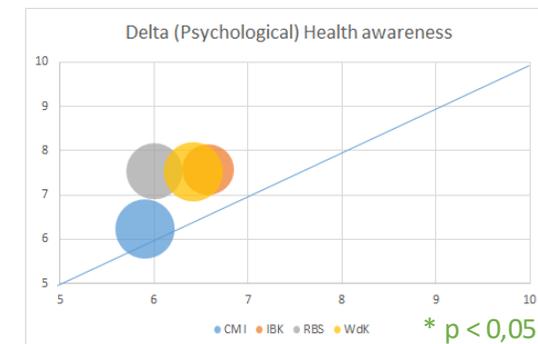
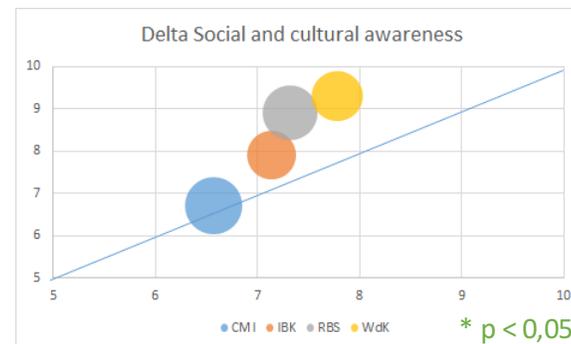
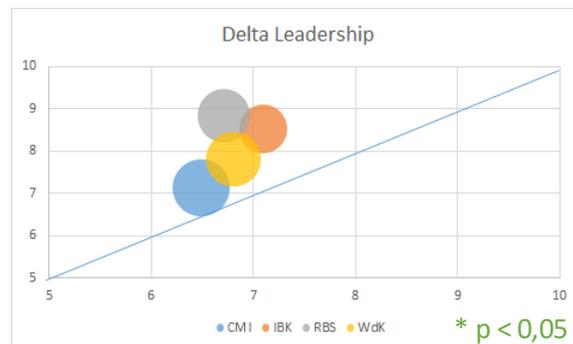
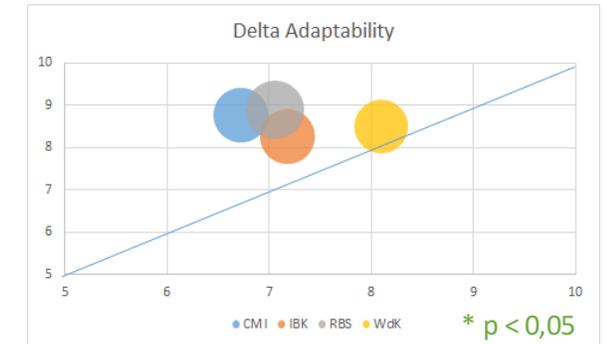
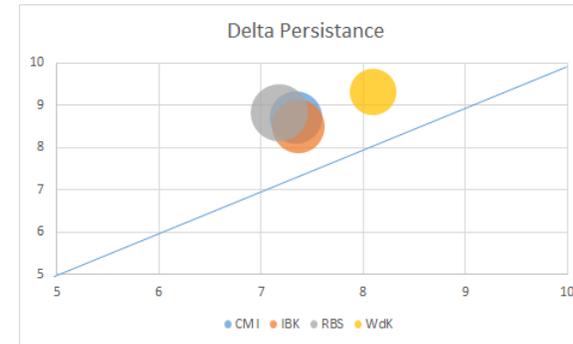
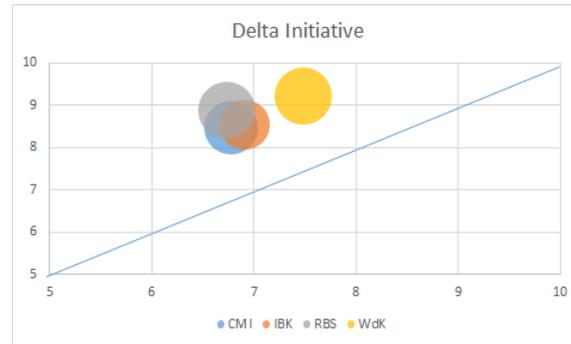
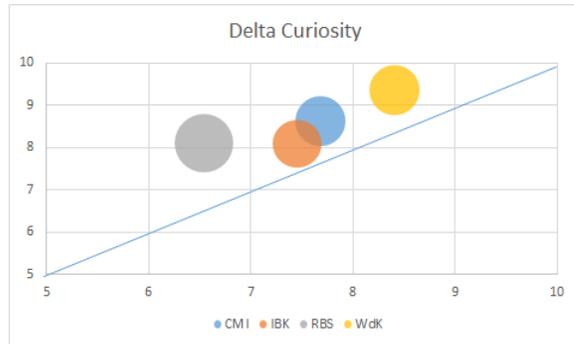
# Results – Delta Foundational literacies



# Results – Delta Competencies



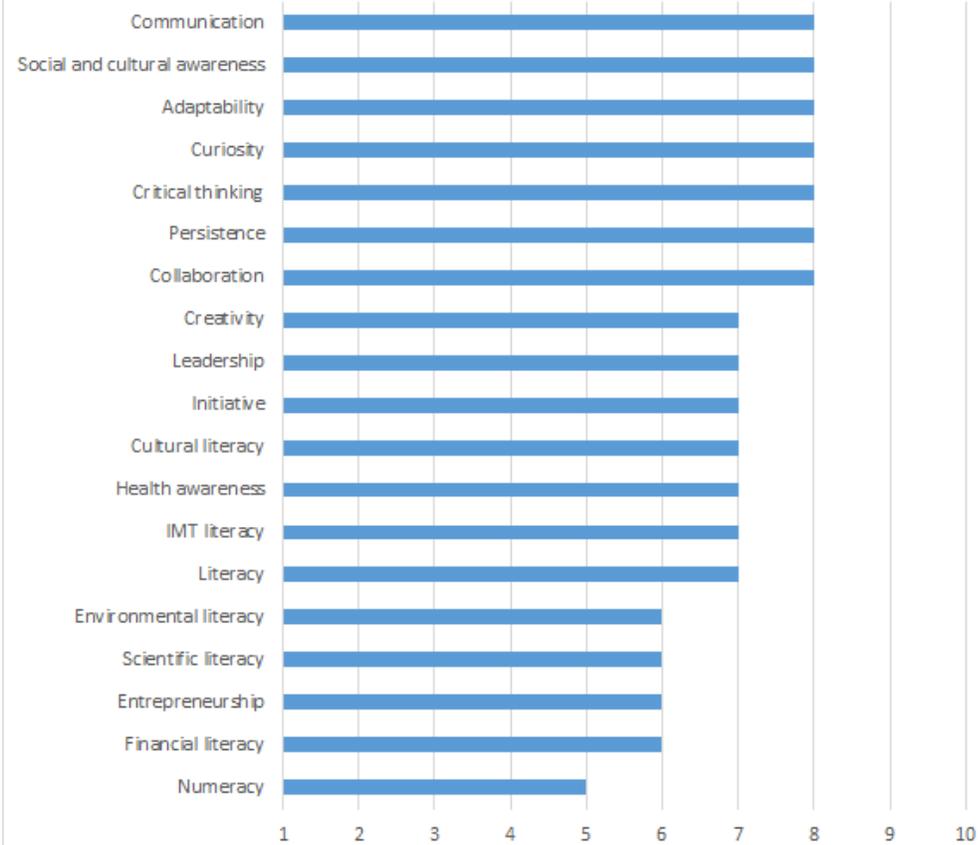
# Results – Delta Life skills



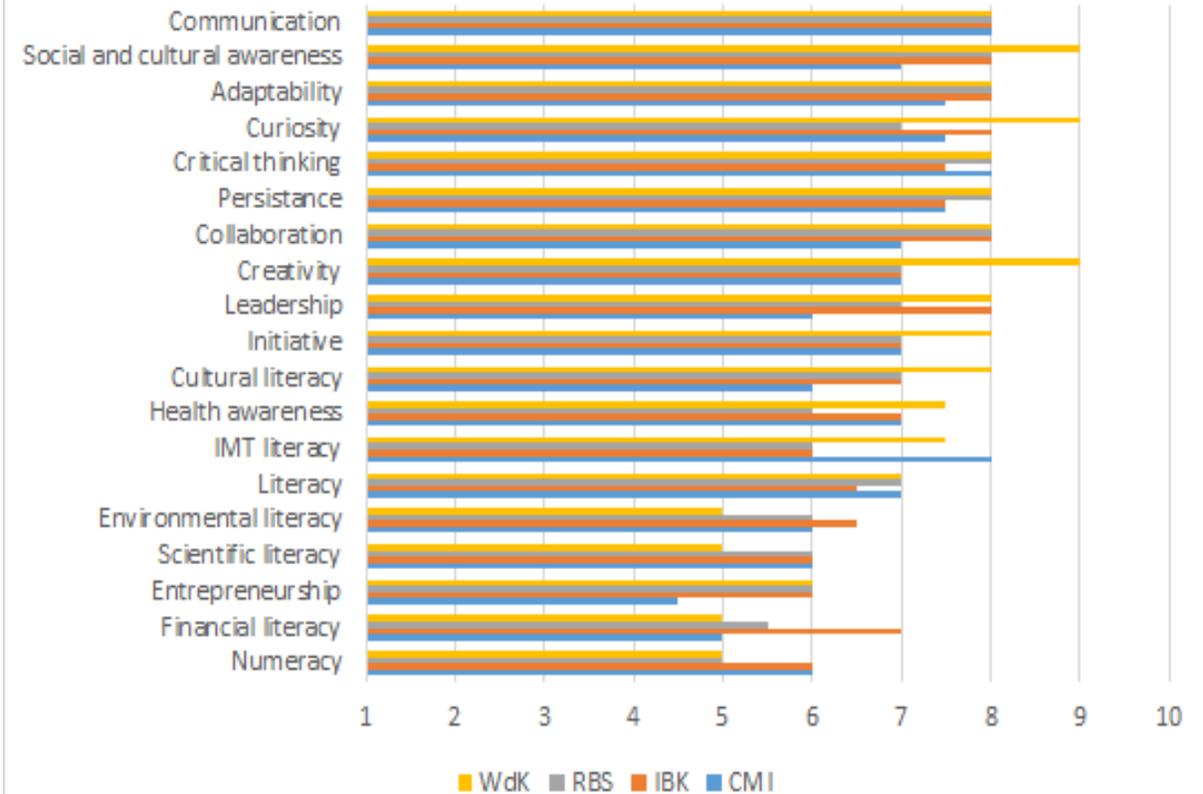
# Results – Contribution of social activities outside RUAS

## outside RUAS

Contribution of activities outside RUAS to the development of 21st Century Skills

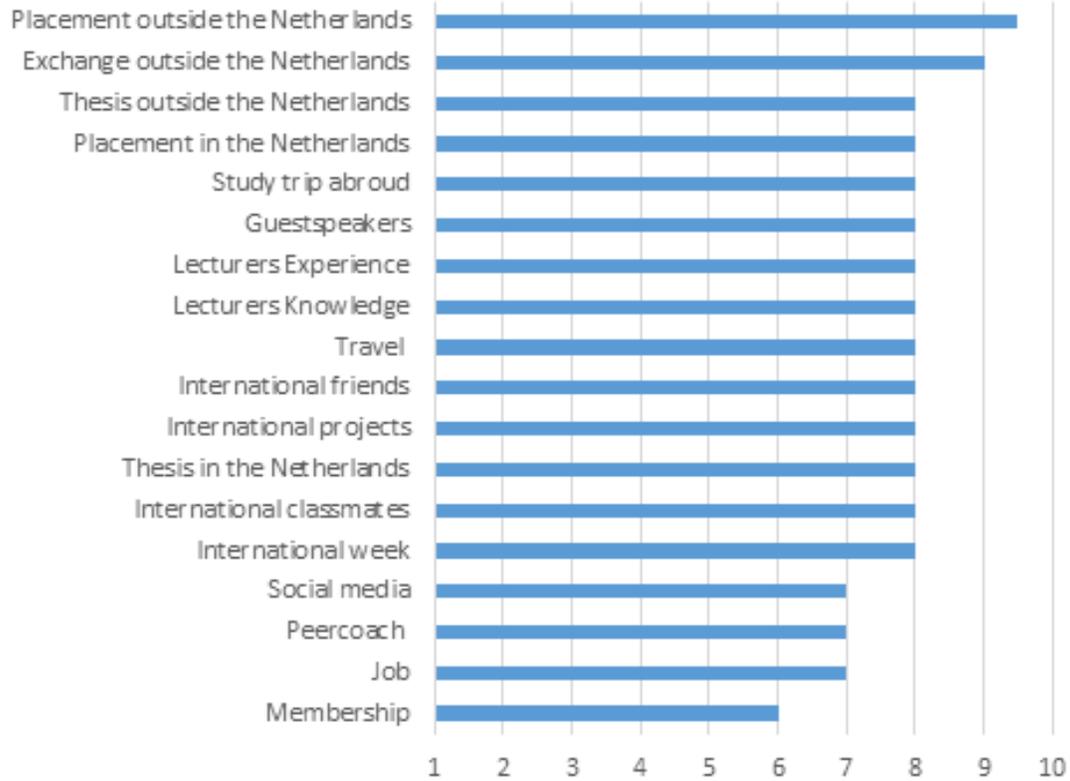


Contribution of activities outside RUAS to the development of 21st Century Skills per school

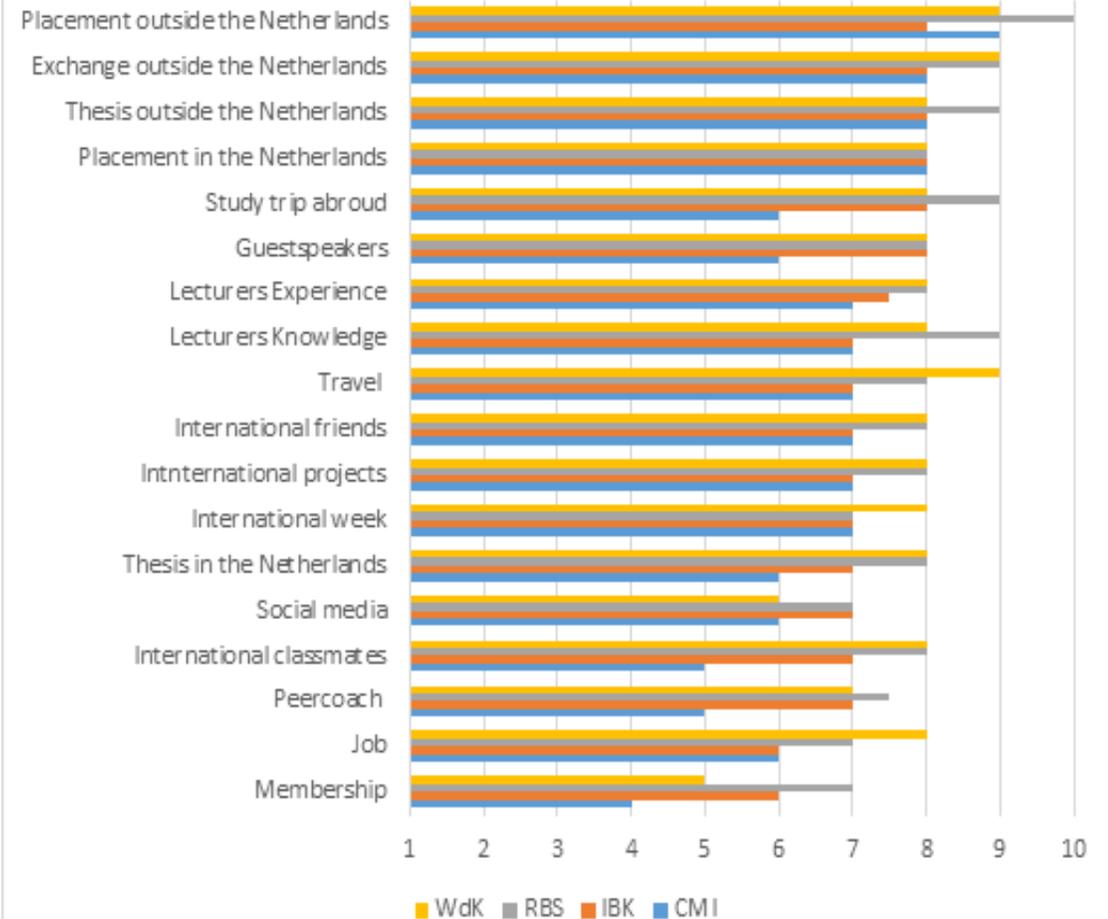


# Results – Contribution of international activities

## School activities contributing to development of 21st Century Skills



## School activities contributing to development of 21st Century Skills





# Conclusions

# Conclusion

*What are the student's perceptions of the importance of 21st century skills for future employment?*

CMI	IBK	RBS	WdK
IMT literacy	Critical thinking	Communication	Communication
Critical thinking	Communication	Critical thinking	Critical thinking
Creativity	Collaboration	Collaboration	Persistence
Adaptability	Financial literacy	Financial literacy	Social and cultural awareness
Curiosity	Persistence	Persistence	Creativity
Communication	Cultural literacy	Cultural literacy	Curiosity

# Conclusion

*To which level have they already acquired 21st century skills at the beginning of their study?*

CMI	IBK	RBS	WdK
Literacy	Collaboration	Collaboration	Creativity
Numeracy	Curiosity	Communication	Curiosity
Scientific literacy	Critical thinking	Social and cultural awareness	Collaboration
IMT literacy	Cultural literacy	Cultural literacy	Communication
Curiosity	Communication	Initiative	Social and cultural awareness

# Conclusion

*What is the student's perception of the importance of experiences in an international setting on the development of 21st century skills?*

CMI	IBK	RBS	WdK
Placement outside the Netherlands			
Exchange outside the Netherlands	International guest speaker	Exchange outside the Netherlands	Exchange outside the Netherlands
Thesis outside the Netherlands	Placement in the Netherlands	Thesis outside the Netherlands	International project
International project	Exchange outside the Netherlands	Study trip abroad	Study trip abroad

# Road forward

1. Follow-up study with 4th year students / a longitudinal research.
2. Operationalization of different 21st Century Skills and translating the elements of 21st Century Skills per schools to learning outcomes.
3. Developing didactical methods which are most effective and efficient for teaching 21st Century Skills.
4. Connection with every advisory board of the schools discuss the set 21st Century Skills for their domain. A comprehensive approach using the full strength of the triple helix
5. Framework 21st Century Skills is a dynamic framework, looking for developments outside the domains.

# Research Centre Business Innovation



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