

ASEM Ministers of Education



Asia-Europe Meeting

Innovative Competences and Entrepreneurship Education

Challenges for the primary, secondary and vocational education sector

Recommendations, findings and Case studies

The ASEM ME Working Group

*Copenhagen
2015*

Content

Foreword	4
The Danish Minister of Education / ms. Christine Antorini	4
Recommendations	4
National and political endorsement.....	Error! Bookmark not defined.
Flexibility of national action plans.....	Error! Bookmark not defined.
Include evaluation.....	Error! Bookmark not defined.
Capacity building for teachers and school leaders.....	Error! Bookmark not defined.
Strategic sourcing and use of resources	Error! Bookmark not defined.
Further work in ASEM ME WG.....	Error! Bookmark not defined.
Part I	5
1. Introduction to the ASEM ME Education Process	5
Justification of the ASEM ME Program on "Innovative Competences & Entrepreneurship" ...	5
The Rationale of the Program	6
Summary of Program activities 2013-2015.....	8
Summary of outcomes of the meetings.....	9
Main outcome of the project	11
Additional outcomes of the project.....	11
Organisation and Responsibility	12
Part II	13
2. Innovative Competences and Entrepreneurial Skills Program	13
Introduction	13
2.1 Case study overview	14
Case Stories are best practices to share.....	14
Thematic approach	15
Diversity of Cases – size and scope.....	15
A narrative approach	16
Analytical preconditions for the understanding of the case studies.....	19
PART III	21
3. Findings	21
3.1 Introduction	21
Central drivers.....	21
The application of case examples.....	21

Similarities and Diversities as key factor	Error! Bookmark not defined.
3.2 Policy Drivers (Strategical drivers)	22
Decisions at national level	22
Expert groups (researchers, academia)	22
Horizontal corporation among ministries.....	22
Partnership corporation and shared vision / agreement with relevant stakeholders	22
Funding / sponsorship	23
3.3 Organisational drivers (institutional drivers).....	23
3.4 Educational drivers (learning drivers).....	23
Part IV	25
4. The Case Studies	26
5. Annex.....	26
A. Gallery of site visits – Local Practice.....	26
B. Key Note Contributions.....	Error! Bookmark not defined.
C. Important references	Error! Bookmark not defined.
D: Format/template for the case studies	Error! Bookmark not defined.
Abbreviations.....	26

Foreword

The Danish Minister of Education / ms. Christine Antorini

Recommendations

The working group on innovative competencies and entrepreneurship

Based on its work and conclusions the working group made recommendations in the following areas to be addressed:

1. FURTHER RESEARCH, ANALYSIS, EVALUATION INTO INNOVATION AND ENTREPRENEURSHIP

- Assessment of current programs
- Implementation
- Needs analysis
- Revision on analysis
- Implementation of new practice

2. EXCHANGE BEST PRACTICES

- Peer Learning Activities (PLA)
- Dissemination of best practice
- Investigates the adaptability and compatibility of the program
- Promotes transparency, trust and recognition amongst participating countries
- Capacity building for teachers and school leaders based on exchange of best practices

The working group recommends the following options to be considered:

Continuation of the Working Group for the next biannual term of the ASEM Education Process

The working group has produced substantial progress in the deliberation of the themes included in its program. However a number of the deliveries from the group have suffered from hardships delays that the individual group members could not account for. Substantial improvements and further developments of the group's program can be achieved by a continuation of the group under a new chairmanship.

An ASEMMME5 International Conference

An International conference on Innovative Competences has two aims; First of all it shall reveal the results and findings of the Working Group; Case studies, proposals and recommendations for further action. Secondly the Conference shall match these findings with the newest research and development in the field of Innovation and entrepreneurship for the primary and secondary school. This will include presentations and discussions with leading researcher and education policy makers. The Conference shall mark the completion of the initial phase and it shall outline how proposed initiatives can be implemented for the ASEM 5. The conference shall also offer an opportunity to showcase the relevance of exchange of experience between the two regions in the field of crucial educational challenges.

Target group of the conference; Policy Makers, Education Managers and Practitioner experts from the two regions.

Initiating further research by considering the implementation of a new program regarding sharing and developing knowledge in to research on innovation and entrepreneurship plan with a sunset clause by May 2017 - report to be submitted to ASEMME6 in Seoul 2017.

Initiating an exchange program for researchers, practitioners and policy makers

Part I

1. Introduction to the ASEM ME Education Process

Justification of the ASEM ME Program on "Innovative Competences & Entrepreneurship"

Since the establishment of the ASEM Ministers of Education Cooperation in 2008 in Berlin (ASEM ME 1) there has been a strong focus on how the education sector at large can improve its cooperation and partnership with Business and Industry and Community life. In the decisions taken at the Berlin meeting it was concluded:

"In view of the rapid social and economic changes and demographic challenges in both regions, education systems have to deliver both broad general knowledge and labor-market related competences and skills. Close cooperation between education and industry at international, national, regional and local level is a core element for ensuring the employability of the younger generation entering the workforce as well as the employability of older generations"

Later on in the cooperation process a further and improved decisions was taken at the ASEM ME3 in Copenhagen. The decision emphasized the following:

"Documenting best practices, particularly those reflecting industry-school partnerships which can be shared by all participating countries"

Finally the Ministers of Education in 2013 in Kuala Lumpur at the ASEM ME4, agreed to encourage the development of a program to take the scope of cooperation wider then the higher education sector, and this time mainly looking into the primary, secondary and vocational education sector. It was agreed:

"The Ministers Expressed their conviction that innovative and entrepreneurial skills and competences should be fostered from an early age and endorsed Denmark's proposal to develop a program for improving innovative and entrepreneurial skills and competences in school education,

in cooperation with Brunei Darussalam, the Czech Republic, Latvia, Hungary, Malaysia, Norway, Republic of Korea, Singapore and Viet Nam”(article 34).

These agreements and decisions clearly shows the interest and commitment among the ASEM Ministers of Education to create the program on “Innovative Competences and Entrepreneurship”. The Danish Ministry of Education decided in 2012 to take the responsibility and to follow up on the ASEM ME3 decision taken in Copenhagen. Moreover the Danish Ministry also took the decision to propose the first ever ASEM ME program with the specific focus on the primary, secondary and vocational education system. During 2013 the circuit of potential participating countries was invited and the preparatory meeting to design the proposal for the ASEM ME 4 was held in Kuala Lumpur in January 2013.

The Rationale of the Program

Before entering the report on the gained results and findings it is important shortly to elaborate on the rationale of this ASEM ME program on “Innovative Competences and Entrepreneurship”.

Taking the point of departure in the crucial fact that a majority of ASEM member states are struggling devastating youth un-employment issues it is a joint challenge for the ASEM countries to create new learning and education strategies for active involvement of children and youth into working and business life.

In most ASEM countries there are a significant mismatch between the number of workplaces available for the broader segments of youth and the expanding labor force. The rationale of the program is laid down on the exploration of how the education system from primary, secondary and vocational school and up to adult education is able to combat this challenge – by creating innovative strategies and innovation measures. To support and encourage students at all levels to become entrepreneurs in a very broad sense; ***From fostering the idea and future aspiration to creating own companies and jobs, and to the active involvement in community programs and social innovation within own local community.***

This ASEM ME program was designed to explore the wide range of education policies, practices and pedagogical methods that leads to a growing involvement of the students into self-managed and innovative business or working life. And to explore how learners become more innovative and creative in general so it will be a value added to their everyday life.

Innovative from early childhood

There is evidence that much is founded at an early age. Implementing innovative strategies at university level or even in upper secondary programs can often be too late. The program targets a wide span of education domains - from the youngest students where it is all about creativity, innovation and self-managed activities founded in self-confidence and beliefs in own abilities to the older students in secondary and VET education, where the strategy is to encourage career development and even the involvement of students into the creation of micro projects and companies. Educational policy lines must be developed to focus dedicated and strongly into innovation.

Improving teacher capacities

Teaching and trainer competences play a crucial and decisive role in creating an innovative approach. Therefore the focus on how to improve the innovative capabilities of the teacher is a main pillar in the program. Especially to strengthen the focus on how teachers can facilitate and encourage the process of innovation and entrepreneurial spirit among the students. This goes from the positive attitude towards entrepreneurship, and up to the creation of innovative learning environments, which can improve the creativity and innovative competences of the students. Finally also how teachers and trainers can mentor and encourage the career choice of self-management and self-ownership.

The professional approach of teacher must be expanded to include ways to promote innovation and avoid rigid and repetitive learning patterns. Linking the schools matters to the real world by practical examples and hands on activities have potentials, which the programme will illuminate.

To explore how Innovative competences can be a valuable part of all levels of the education system, and how these efforts and learning strategies can be interlinked, plays an important role in this program as well as nurturing innovation has a variety of practises, but must be practised at all levels.

Innovation and the link to business life and community

This ASEM ME Program explores the crucial cooperation between the education institutions and the business and community life. This co-creation between the school and the life of business and work are crucial to create a practical understanding and a sense on how to get started. The interface between business and industry, civil society and education must be vitalized at institutional level

All these various factors and features of innovation and entrepreneurship form the universe of possibilities for the students to become self-made – either in business, in working life and in community development.

The program will strengthen the global evidence base related to the development of innovative competences and shall coordinate and feed into other international programs (see reference-box).

To summarize the rationale of this ASEMME4 Program on Innovative Competences;

The program will approach and explore how new learning opportunities gained from the experience and best practice from the primary and secondary education sector can improve Innovative Competences and Entrepreneurship in the two regions by

a) Collect and communicate how children and youth can be supported to become the future innovators in their own life, in their local community and in working and business life. This will done by presenting case studies & showcases of Innovative Learning, which have positive impact on the quality of life and prosperity of community

b) Contribute to and further develop the cross cultural understanding of what Innovative Competences are, and what ensures the educational contribution to sustainable growth of business and working life as well as community development in the participating ASEM countries.

Summary of Program activities 2013-2015

This ASEMME Program most important objective was to create sources and perspectives for *policy makers and practitioners* and to create a possible inspiration for the ASEM Countries to initiate programs in line with the represented case studies. It has also been an objective to strengthen the exchange of experience and to set joint discussions and assessment about how the primary, secondary and vocational education in the ASEM Member-countries can contribute to the wider target of entrepreneurial and innovative learning.

The global perspective of the components has been to create measures and meeting opportunities where it is possible to explore the wide range and diversity of educational practices and strategies and policies which are taken in the ASEM member countries. This will create a valuable pool of sources, best practices and narratives about the important drivers of successful programs.

The Working Group process

The first cornerstone of the program has been the “working group process”. It is important to understand that the participation in the program is a volunteer process, where no specific funds are available for the work. Therefore the participants in the working group process have delivered information, collected experiences and taken part in the case study process without extra resources or funds. What can be found in this report is therefore the result of a commitment to contribute to a transnational (ASEM) process, where the key driver is the curiosity to explore how things are done in other countries and what are the aim and rationale behind other countries and regions choice of policy and practice. The outcome of the working group process is therefore the opportunity to enrich own decisions and choice of policies.

Case Study Process

The second cornerstone of project has been the collection of best practice case studies from each participating country. The case study “exercise” provides a hands-on description and understanding on how the education system can contribute to the improvement of “*Innovative competences*”; How Innovative competences are supported in diverse cultural contexts and also how it can be done on both micro (institution) and macro(system) level. The case study enables us to identify the driving forces to create more innovative abilities within the education and school system.

Site visits and local practice

An important part of the exchange process has been to visit practitioners in the host countries. The aim of this has been to enrich the discussion by the possibility to have discussions with schools or special education programs aimed on how to create Innovative competences and

entrepreneurship. The meetings have been organized in a way where not only the practitioners in the form of teachers, but also the students have been involved in the discussion and feedback on how we create a more innovative and entrepreneurial school.
(See Gallery in Annex A)

Key Note Presentations –WG GROUP

For every Working Group meeting a prominent key note speaker from the host country has been invited. The Key notes have elaborated on various aspects on how to improve and mainstream innovation – creativity and entrepreneurship into the education system. In this program external and important expertise has been given from the cooperation with the OECD CERI in Paris. (See contribution in Annex B)

Summary of outcomes of the meetings

Meeting 1: Opening Seminar Copenhagen September 2013.

The aim of the Seminar was to create the joint understanding and framework of the program. Secondly the aim was to involve the member countries committed to further development of this important aspect of education policy and practice in the two regions.

The Seminar founded the Working Group with the responsibility to outline the program on Innovation Competences and Entrepreneurship in ASEM Member countries. Denmark invited and managed the Opening seminar. The Opening Seminar introduced the thematic orientation of the program and terms of reference of the work was proposed and endorsed.

The outcome of Copenhagen

- **Establishment** of a broad ASEM-ME Working Group to disseminate case studies and create an overview about existing experience in the field of Innovative Competences.
- **Terms of reference** to outline the principles of the WG process
- **Work Plan** for the program

Meeting 2: Working group session in Singapore January 2014

The Working Group (WG) meeting in Singapore presented the case study on successful/best practice programs or projects selected from the participating countries. In autumn 2013 we sent out some guidelines to support the WG in the selection and preparation of the cases. The guidelines were also done to ensure a certain level of "uniformity" in the description to ensure comparability of the cases.

The outcome of Singapore

- **Collection (catalogue)** of "1st outlined" case studies - The collection consists of both micro/school projects – medium sized/clusters of schools or programs or macro/policy initiatives covering broader parts of the education system.
- **Targeted analysis** of the best practices within the presented case studies

Meeting 3: Working group session in Oslo May 2014

The meeting in Oslo brought forward the selection and further elaboration of the Case studies. The meeting was organized also to clearly present the case studies into the three main categories of; Teacher development – Curriculum design and development and finally the improved cooperation between the education sector and business and community life. The second part of the meeting focused on a joint analysis to elaborate what are the Key Drivers for successful implementation in the participating countries.

The outcome of Oslo:

- Outline of the Table of Content for the final ASEM ME Report on “Innovative **Competences and Entrepreneurship**” to be submitted to the members of the ASEM ME in Latvia April 2015.
- The outline of key drivers for successful implementation of policies and programs
- Design principles of the Case Study. The Case Study consists of 18 individual case studies from the 10 participating countries. Moreover the report will present a Gallery of successful schools, education programs or learning centers from the countries hosting the WG meetings.

Meeting 4: Working group session in Hanoi October 2014

Outcome of Hanoi

- **Created the final version** of the Case Study report. Edition and principles of main streaming of the report to the ASEM ME Members.
- **Completed the Key Drivers** for successful policies and programs.
- **Outlined the main Policy Recommendations.**

(Final) Meeting 5: Riga January 2015

The meeting in Riga is the final meeting in the Working Group. Foremost this meeting is organized to hand over the case study report – findings and recommendations – to the Latvian ASEM ME 5 President.

The outcome of Riga

- The meetings created an opportunity for the working group to discuss with the ASEM ME Chair potential new initiatives and strategies to move this important work forward.
- The Working Group carried out an Evaluation report also to be submitted to the ASEM ME Chair.

- After delivery of the report to the ASEM ME Chair the Working Group has completed its preparatory work.

Main outcome of the project

A Final Evaluation Report to be submitted to ASEMME5 April 2015 in Riga to outline the main findings and the recommendations for the ASEMME5.

Options to be considered;

- *Proposal for a second phase of implementation aimed at an exchange program for policy makers and professionals;*
- *Initiating a research and practitioners network*
- *Presenting the ASEMME Case-study on best practice in Innovative Competences and Entrepreneurship.*
- *Launching of a follow up process and to implement a new program plan with a sunset clause by May 2017 - report to be submitted to ASEMME6 in Seoul 2017.*

Additional outcomes of the project

In parallel with the case study ASEM ME Catalogue on success learning programs and methods shall compile an interesting source of best practices. All ASEM members will be invited to send their contribution to the case study. The case study will be launched through normal ASEMME and ASEF channels.

Initiating an ASEMME5 International Conference (to be presented as one of the recommendations of the WG)

An International conference on Innovative Competences has two aims; First of all it shall reveal the results and findings of the Working Group; Case studies, proposals and recommendations for further action. Secondly the Conference shall match these findings with the newest research and development in the field of Innovation and entrepreneurship for the primary and secondary school. This will include presentations and discussions with leading researcher and education policy makers. The Conference shall mark the completion of the initial phase and it shall outline how proposed initiatives can be implemented for the ASEM 5. The conference shall also offer an opportunity to showcase the relevance of exchange of experience between the two regions in the field of crucial educational challenges.

Target group of the conference; Policy Makers, Education Managers and Practitioner experts from the two regions.

Organization and Responsibility

The ASEMME Program on Innovative Competences was initiated by the Danish Ministry of Education who also has delivered the program coordination and secretariat.

The countries participating actively in the process have funded the participation and work of national experts. Countries who have hosted working group sessions have generously provided hospitality, meeting venues and the arrangement of inspiring site visits.

The following ASEM Member states are actively involved in the project; Vietnam, The Republic of Korea, Norway, Czech Republic, Malaysia, Philippines, Brunei Darussalem, Hungary and Singapore. France has taken part as observer at the Oslo meeting. Exchange of experience has been made with Austria.

The project has also actively joined by the head of the OECD Innovative Strategies Unit; senior analyst Stephan Vincent Lancrin.

Part II

2. Innovative Competences and Entrepreneurial Skills Program

Introduction

As mentioned earlier in the report this program has objective to explore how children and youth can be supported to become the future innovators in their own life, in their local community and in working and business life by conducting casework studies. Furthermore the program aims to contribute to further develop the cross cultural understanding of what Innovative Competences are.

In this ASEM program the definition and mutual understanding of the main concepts of competences creativity, innovation and entrepreneurship has been subjects to reflection and broad discussions. It is always a challenge to present very distinct definitions on educational thematic. Influenced by diverse values and especially influenced by rather diverse cultural contexts like within the ASEM countries, makes it nearly impossible to agree on very distinct definitions. It is also a common understanding that these three competences have to be seen as strongly interrelated. In some respect the discussion about what a definition should include has a greater value then the definition itself. In the following the three main concepts of competences will be outlined.

Creativity

Creativity can be understood as the ability to discover and create ideas and opportunities (Shane & Ventakamaran 2000). It can also be the ability to combine knowledge, experience and personal resources from different areas in new ways (Sarasvathy 2001; Herlau & Tetzschner 2004). Furthermore creativity can be the ability to create and revise personal perceptions, to experiment and improvise in order to solve problems and meet challenges (Tanggaard 2010).

Innovation

The Oslo manual (2005) is the basis for the OECD definition of innovation: 'the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations'. The Science, Technology and Innovation Council defined innovation in the 'State of the Nation 2008' report as 'the process by which individuals, companies and organizations develop, master and use new products, designs, processes and business methods. These can be new to them, if not to their sector, their nation or to the world. The components of innovation include research and development, invention, capital investment and training and development.

The two approaches are not contradictions but rather complimentary to each other. Both are anchored in a process oriented approach and the STIC definition strongly points to the contextual aspect in terms of a reference to the fact that what might be innovative in one context might at the same time be 'old school' in another context.

Both approaches to the definition of innovation seem to solely focus on or at least overemphasize the role of innovation in market related businesses and pay less attention to the aspects of innovation that relate to civil society, community, social environments, non-governmental

organizations and other activities that are not necessarily market or profit driven. The ASEM Innovative Competences project takes a point of departure in a widening of the scope for the two definitions including the fore-mentioned activities.

The project has the ambition to illuminate how education can contribute to the development of the competences of people who embark on, drive and contribute to the process of innovation in their particular context. Innovative competences are in this sense the skills, knowledge and attitudes that enable and encourage people to interact with other in an innovative perspective - i.e. embraced by the definitions in their widest scope.

To sum it up:

- Innovation is a process.
- Innovation is contextualized.
- Innovative competences are composed by skills, knowledge and attitudes.
- Education for innovation enables and encourages children and young people to reach out to a desired future of their lives, community, business and nation.

Entrepreneurship

Entrepreneurship is when there is acted on possibilities or good ideas, and these are translated into value for others. The value created can be economic, social or cultural. Entrepreneurship as a competence is foremost the ability to create change. It is not enough only to be productive. It is a condition that the actions /initiatives taken by the entrepreneur leads to changes, and that the actions/initiatives have a proven value for others, and is possible to put into action.

Finally it is important to understand the concept of entrepreneurship as a broad term, and which can be used in wide range of activities from community work to building profit making companies. Entrepreneur origins from the French notion "Entreprenant" – meaning "to take action and initiatives".

These three characteristics of entrepreneurial competences is of course a big challenge to achieve within normal education programs. The case studies provides a number of examples on how it is possible to create pedagogical and didactical programs where the students are able to try out these competences, both from a learning point of view and from an organizational point of view.

2.1 Case study overview

Case Stories are best practices to share

From the start of the program one of the key features have been to collect a case study on success full programs, policy initiatives or projects from the participating countries. It has been an earlier experience from the ASEM ME Lifelong Learning (2000-2004) that a case study selection of success full actions, provides a close link to practice. It also turns the exchange of experience into a concrete format, and finally leaves the opportunity to discuss universal principles of importance to the policy and practice making process in the unique context of the participating ASEM countries.

A process which to high extend can be of benefit to all of the participating countries in the ASEM ME.

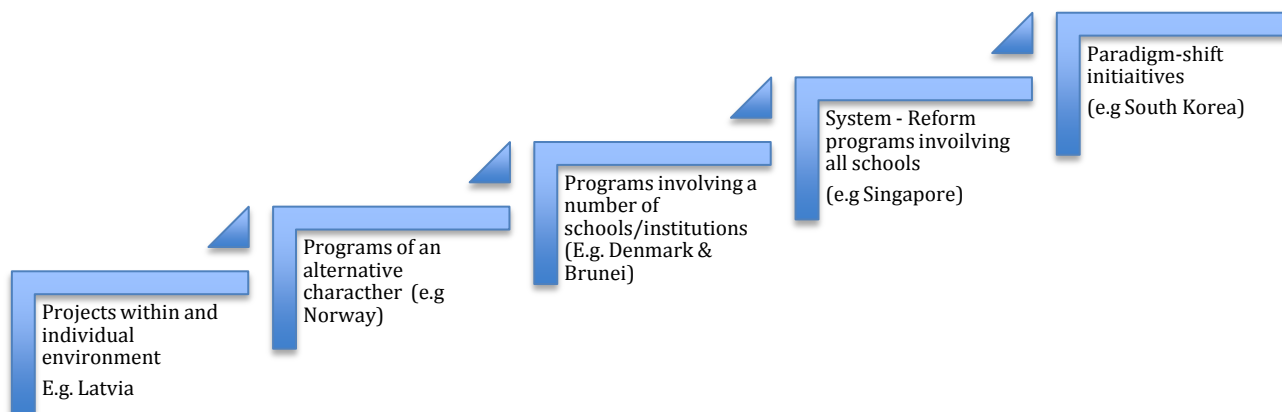
Thematic approach

In this program the Case study left the choice of cases to the participating countries themselves. However from the very first meeting it was decided to select the cases within three main categories of education policy and practice:

Teacher Education and training (facilitation)	Curriculum development (teaching and learning process)	Cooperation with business and community (partnerships)
Justification		
<p><i>Like in all aspects of education the teacher plays a crucial role to nurture and facilitate learning outcomes. Facilitation methods are therefore a key to improvement of students' motivation and learning. Teacher needs to explore entrepreneurship on the one hand – and teachers need to find and invite people from business and community who can encourage as role-models.</i></p>	<p><i>To enforce innovative competences it is necessary to have formal curriculum content and strategies, which allows and open for the possibility to spend education time on the activities. It can either be encouraged by cross-curriculum activities but also as an integrated part of the existing curriculum – supported by textbook materials and other relevant trainings materials. A flexible curriculum allows to invite the local community into the school and visa versa.</i></p>	<p><i>Relevance is an evergreen challenge to the school, And in a time where the community is under constant technological, cultural and social change – the school must open and build strong partnerships with the local/global industry – with the local community key stakeholders. Education must to higher extend be a dual process with companies – art production – community activism and other social movements. The social media revolution underlines that the school cant be an island.</i></p>

Diversity of Cases – size and scope

The case study also represents rather diverse types of cases ranging from national initiatives programs to individual initiated program taking place in one local community of school.



In this respect the case study also represents a large variety of strategies on how to approach the challenge to improve innovative features into the school.

A narrative approach

In the approach to describe the cases, the participants have been given a format (see Annex D) in order to provide relevant information for the readers to understand the context of the case study. To a wide extent the case stories can be understood as stories on their own and not a full systematic description. By pictures / logos and other identification the case study has been given a narrative approach. Given the fact that this type of educational programs often has got a strong cultural context, and given the fact that stories about success full teaching or students performance, creates a deeper understanding of the aspirations and commitments behind the cases.

In this respect each of the participating case stories can be read as a joint effort within the WG to make a contribution to the understanding of best practice – and they also can be seen as individual stories on how local/national educators have tried to move forward the possibilities for a more innovative and entrepreneurial school.

Country	No.	Name	
Brunai Darussalam	1	Brunai Entrepreneurship education scheme (BEES)	
Brunai Darussalam	2	Public-Private Partnership Involvement	
Czech republic	3	Centres- Creative Entrepreneurship in Schools	
Denmark	4	The Entrepreneurship School	
Hungary	5	Company Program	
Latvia	6	Development of Creativity and Professional	

		Competencies of Students in Style Furniture designing	
Latvia	7	Career orientated non-formal education for children and youth	
Malaysia	8	Entrepreneurship in Malaysia Education System	
Norway	9	Innovative Competences: Work Exchange/work Experience for teachers and trainers in Vocational Education and Training (VET)	
Norway	10	Innovative Competences: Green ang Genius	
Republic of Korea	12	Bizcool Program	A program which provides youth with great opportunities to foster challenge spirit, creativity, entrepreneurship and competency to startup business by various activities with the help of government's fund
Republic of Korea	13	The School Creative Career Education Program SC + EP	A new paradigm of education which is composed of several diverse programs with the help of government, ultimately fostering students' creative career competency by futuristic perspective and focusing on the world of work
Singapore	14	Developing 21st Century Competencies	
Singapore	15	Teacher Education for the 21st Century	

3.4 Educational drivers (learning)

Highly skilled and professional teaching force

It is a precondition for successful outcomes of the learning process that a highly skilled teaching force is applied to the process. This means that the teachers must be trained in and familiar with a variety of teaching methods that are proven to be efficient towards the desired outcomes. For example, in case of Norway, where both the teachers and the trainers from industry through the exchange program get professional new knowledge and experience which increase the learners' outcome. In South Korean case, though main teaching methods were focused on conventional one-way teaching, the nation has recently seen the importance of greater levels of innovation in

education and proactive career/entrepreneurship education. To answer this requirement, Korea is running various teacher training programs for highly skilled and professional teaching force for the enhanced teaching methods.

Innovative learning methods

The learning methods should be open, motivating and inclusive to all the participants and should enable the participants to unfold their imagination and eagerness to create in a yet structured and target oriented manner. In case of Latvia, career oriented non-formal education offers opportunities to apply individual, innovative teaching methods that help to form personal development strategy. Broad scope of choices gives chance to explore different scenarios for career development. Variety of applicable methods helps to develop inter-disciplinary skills i.e. problem-solving, creativity, self-assessment and presentation skills. In the case of Denmark a Danish municipality through the so-called KII-model (Creativity-Innovation-Implementation) gives all children in compulsory school the opportunity to develop an innovative business project, create a demonstration model and promote the idea to investors and manufacturers. In Korean case new learning methods using ICT (Smart book for career education and real-time cyber mentoring) is enhancing the overall career education and entrepreneurship education of South Korea by granting equal opportunity to be aware of the world of work for the students in remote and underdeveloped area.

Collaborative programs between schools and other organizations (collaborative learning?)

Collaborative programs involve two or more organizations (schools, companies or communities) participating in certain programs together, actively interacting with one another regarding methodologies, resources, environments etc., ultimately promoting collaborative learning atmosphere. In this way schools can make good use of various resources outside the schools, making the learning activities and process more efficient and effective. Diverse companies and communities participating in the collaborative programs provide the schools with immense opportunities to learn more hands-on experiences, and they can also be benefited by developing future workforce equipped with better entrepreneurship. Norwegian exchange programs and joint projects with a focus on creating real life activities and learning situations can be included as examples. A key driver in educational aspects is also the possibility to invite the students into very innovative, practice oriented and motivating environments. In case of Brunei, involving public and private organization in BEES program certainly contributed to raising awareness about conducting business amongst students by creating a platform for active interaction amongst all stakeholders.

Contribution to the social needs

The innovative pedagogy and the development of entrepreneurial skills should unfold in a process the reaches out to and includes the world outside the educational institutional frame. The innovative ideas should be guided into paths of usefulness and also for the benefit of society. This will eventually create a beneficial outcome for all actors involved and will turn over in the development of an enhanced innovative spirit in society. In case of Malaysia, School Enterprises are implemented in which students are undertaking curricular activities that meet the needs of the market. Feedback system throughout the process of the program for quality and customer

satisfaction will develop young talents highly sought by the industries in the long run. In case of Hungary, the needs of financial skills in the future contributed to development of the Company Program. Through this program students are expected to increase the understanding of the workplace and key principles of enterprise and employability. The similar goes for the case of South Korea, Latvia and Norway.

Alignment between curriculum, pedagogy and assessment

In order to achieve the enhancement of knowledge and skills together, the curriculum and assessment should be closely related with each other under the umbrella of relevant pedagogy. In case of Norway, through the exchange program the trainers in the enterprises and the teachers in VET schools get to know the whole curriculum and others' methods. On this basis the pupil assessment will be more completely and lead to necessary change according to learning methods. In case of Singapore, TE21(Teacher Education for the 21st Century) was embarked after the institute-wide program review and enhancement. The program promotes the teachers with required values, skills and knowledge needed in 21st century classroom. In line with this, the program seeks to offer diverse opportunities for teachers to develop the competencies related with skillful, reflective and innovative teaching. The assessment of the program is conducted connected with variety of surveys.

Analytical preconditions for the understanding of the case studies.

The ASEM countries represent a rich variety in terms of political infrastructure, financial schemes and availability of funds for educational purposes. This variety is to some extent reflected in the case studies.

The political infrastructures of the ASEM countries range from fairly centralized systems over federal compositions to fairly decentralized systems. In some countries acts and regulations are phrased as frameworks under which the local level can decide for different priorities and different modalities of implementation. While in other countries the acts and regulations outline a very narrow scope for the diversity of action at local level. This has the implication that the policy lines that can be identified in the case studies must be reflected in their own particular context.

In the decentralized systems the activities are also funded by locally allocated funds and in some cases like the Scandinavian the local authorities collect taxes on their own and allocate these resources according to local priorities whereas in centralized systems local activities are to a high extent dependent on the allocation of funds from the state level.

The same perspective applies to the need for financing of the activities in the case studies. In some of the cases the activity could not be launched without the grants of additional funding from a central source. In other cases it is not relevant to submit additional funding but rather to rethink the spending of resources already available.

In this respect the case studies must be seen as the materialization of a joint set of values and ambitions on behalf of future generations and a reach out for promising prospects for the nation naturally shaped to work in very different specific national set ups.

PART III

3. Findings

3.1 Introduction -

Central drivers

In this chapter it shall be outlined what are the main drivers in creating successful programs in the field of “Innovative Competences and Entrepreneurial skills”. In this program we have identified three main drivers that affect the outcome in a positive direction: policy driver, organizational driver and educational driver.

Policy drivers (Strategic): It is obvious that very strong drivers are formal agreements and memorandum of understandings which outline specific priorities on eg. teacher development and teacher exchange are crucial drivers to make things move because it can be assessed and measured between partners. Expressed political top priority.

Organizational drivers (institutional):

Organizational drivers for the promotion of innovative competences and entrepreneurship are the required resources and structured relationships which are contributed to create the framework within which the process that are indicated in the policy plan can unfold e.g. strong leadership, cooperation between various stakeholders, etc.

Educational drivers (learning driver)

The key factors that are needed to make up a teaching and learning environment for developing innovative and entrepreneurial competences in which students, teachers and social partners can work together. For example collaborative learning could be a genuine joint thematic for the drivers that influence the educational process such as collaborative learning between school and companies in the neighborhood and the local community. This includes exchange programs and joint projects with a focus on creating real life activities and learning situations. A key driver in educational aspects is also the possibility to invite the students into very innovative, practice oriented and motivating environments.

The application of case examples

We can identify common drivers and challenges such as partnerships, teacher development and collaborative learning. We could also find differences across the continents. Among the core differences are the centralization and decentralization of the governing of the education systems.

3.2 Policy Drivers (Strategic)

Decisions at policy level (national, regional or local)

In most cases across the countries, we observed that the programs started with key directions and decisions made at the national level, supported by political leadership. For example, in Singapore, the 21st century competencies framework endorsed at national level gave rise to implementation in schools. While the programs could be initiated by the Ministry, expert groups/researchers or industry, the success is dependent on endorsement by political leadership (at central/federal or regional/municipality/local level).

In Latvia the development of competencies are determined in the National Development Plan 2020 and in the „Guidelines of Education Development for 2014-2020”.

For example, in Republic of Korea, the 5-year national plan for Korea education emphasizes the development of innovative/creative competences.

For example, in Denmark, the mayor was the key driver for the entrepreneurship schools throughout the municipality. Usually, a White paper or national strategic plan is drawn up and agreed upon, and further developed into more detailed action plans.

Expert groups (researchers, academia)

In many cases, researchers and academia are involved in developing ideas or policy recommendations, and help to pen out the details in the action plan, so that the policies are informed by evidence-based research and international best practices. For example, in the Republic of Korea, the National Research Centre for Creative Education initiated the SC+EP program. In Norway, the implementation of the exchange program was followed up and evaluated by the researchers at the Institute for Labor and Social Research (FAFO).

Horizontal cooperation among ministries

As innovative competences and entrepreneurship are multi-dimensional, it often requires several ministries to cooperate to implement a program. For example, in Norway, the National Action Plan for Entrepreneurship (2009-2014) was developed through cooperation between Ministry of Education and Research, Ministry of Trade and Industry, and Ministry of Local Government and Regional Development. In Brunei Darussalam, there was cooperation between the Ministry of Education and the Employees Trust Fund under the Ministry of Finance.

Partnership between private and public sector

Many of the case studies involved cooperation relevant stakeholders, e.g. education institutions, social partners and entrepreneurs. Having a consistent underpinning philosophy among all the stakeholders is important. For example, in Brunei Darussalam, a memorandum of understanding between the Ministry of Education, Universiti Brunei Darussalam and Brunei Shell Petroleum Company was drawn up for the BEES program. In other cases, ground-up innovations arose without involvement of the Ministry. For example, in Latvia, the Furniture Design program was cooperation between schools and the local community.

Funding / sponsorship

There is a range of funding approaches. Firstly, there is direct funding from the national government. Norway: exchange program for teachers in vocational education and training was funded directly from the Ministry of Education and Research. Korea: the Small and Medium Business Administration provided the funds for the BizCool program. 2nd: local government. Denmark: the municipality funds the program. 3rd, private sector / industry. Brunei Darussalam: 100% from industry. 4th: no additional funding is required, but the program is developed within existing schemes of funding. Singapore: the development of 21st century competencies in the curriculum was part of the regular review of the curriculum. There are also programs that involve a mixture of the above types of funding.

3.3 Organizational drivers (institutional)

School Leadership

Educational leadership is more than the administration of budgets and management within the institutional framework. School leaders ensure that the targets of the institutions are pursued in an efficient organization of the teacher workforce and supporting staffs. They are also responsible for the profile of the school in the local community. The Latvia case on furniture design program indicates a strong commitment of school leaders towards Social Entrepreneurship whereas the strong political commitment in the case of Denmark helps to ensure the execution of the school program. In the case of Korea, the pilot schools under the SCEP programs as supported by MOE have exemplified strong leadership traits.

Teacher training / staff development

Planning and framing of teacher training is essential in order to implement the entrepreneurship and innovative competences, teacher training is one of the key drivers as they are the front-liners when facing the students and developing new and innovative learning processes - for instance the cases from Singapore and Norway.

Collaborations among organizations/institutions

There are several ways for organization to boost the quality of their program by collaborating with diverse stakeholders. An organization can invite diverse ideas or resources generated from schools and other expert groups. An organization can also build sturdy partnership between stakeholders such as regional communities and industries under the mutual interest. In addition business and industry can actively give opportunities for organization to participate in working environment. A good example of this is the case by Brunei Darussalam and Malaysia on public-private partnership: Industry participation in entrepreneurship education. Also the cases of Latvia, Brunei Darussalam and Singapore are examples of partnerships. In light of the collaboration amongst the organizations participating in the entrepreneurship programs, tripartite cooperation, i.e. between ministries and the social partners on the labor market, is an option to be considered, as in the cases of Norway and Denmark.

When evaluating innovative learning programs at any level, a proper assessment tool is essential to ensure the sustainability and quality of the program. The Singapore and the Norwegian case indicate best examples

3.4 Educational drivers (learning)

Highly skilled and professional teaching force

It is a precondition for successful outcomes of the learning process that a highly skilled teaching force is applied to the process. This means that the teachers must be trained in and familiar with a variety of teaching methods that are proven to be efficient towards the desired outcomes. For example, in the case of Norway, where both the teachers and the trainers from industry through the exchange program get professional new knowledge and experience which increase the learners' outcome.

In South Korean case, main teaching methods have been focused on conventional one-way teaching, however South Korea is seeing the importance of active career education and entrepreneurship education. To answer this requirement, Korea is running various teacher training programs for highly skilled and professional teaching force for the enhanced teaching methods.

Innovative learning methods

The learning methods should be open, motivating and inclusive to all the participants and should enable the participants to unfold their imagination and eagerness to create in a yet structured and target oriented manner.

Breaking new ways in innovation also implies that teachers and learners must act in an experimental environment. In order to make this unfold in a progressive way it must be monitored and assessed in a rigor way – action research. This has so far not been identified in the featured cases in this project but it might be subject to further investigation in an optional second phase of the work. However we have seen that the scheme for teacher assessment in Singapore to at least some extent includes elements of this. In Korean case new learning methods ICT (Smart book for career education and Cyber-mentoring) is enhancing the overall career education and entrepreneurship education of South Korea. In the case of Latvia the variety of applicable methods helps to develop inter-disciplinary skills i.e. problem-solving, creativity, self-assessment and presentation skills. In the case of Denmark a Danish municipality through the so-called KII-model (Creativity-Innovation-Implementation) gives all children in compulsory school the opportunity to develop an innovative business project, create a demonstration model and promote the idea to investors and manufacturers.

Collaborative learning between school and local companies and community. This includes exchange programs and joint projects with a focus on creating real life activities and learning situations. A key driver in educational aspects is also the possibility to invite the students into very innovative, practice oriented and motivating environments.

Responsive to the needs of society

The innovative pedagogy and the development of entrepreneurial skills should unfold in a process that reaches out to and includes the world outside the educational institutional frame. The innovative ideas should be guided into paths of usefulness and also for the benefit of society. This will eventually create a beneficial outcome for all actors involved and will turn over in the development of an enhanced innovative spirit in society. In the case of Malaysia, - case of Hungary the same goes for the case of Latvia and Norway.

Alignment between curriculum, pedagogy and assessment

In order to achieve the enhancement of knowledge and skills together, the curriculum and assessment should be closely related with each other under the umbrella of relevant pedagogy. When we design the curriculum in order for the proper learning outcome, measurement is a crucial tool for the development of students' competency and development of program itself. In case of Norway, through the exchange program the trainers in the enterprises and the teachers in VET schools get to know the whole curriculum and each others' methods. On this basis the pupil assessment will be more completely and lead to necessary change according to learning methods.

Based on the findings and discussions derived from the working group, to ensure proper implementations and sustainability of the Innovative Competences and Entrepreneurship in Education, preliminary key success factors have been identified as follows:

3.5 Conclusion

Based on the findings and discussions derived from the working group, to ensure proper implementations and sustainability of the Innovative Competences and Entrepreneurship in Education, preliminary key findings have been identified as follows:

A) National Guidelines and Political endorsement for innovative/entrepreneurial competency education.

Without strong commitment at policy level, it is difficult to develop and implement innovative/entrepreneurial competence education. National Development Plan, National guidelines, White Papers showed the examples of strong commitment for developing innovative/entrepreneurial competences.

B) Strategic Sourcing and Use of Resources.

Experiences from the cases show the importance of utilizing available resources strategically by streamlining them towards innovative/entrepreneurial competency education.

C) Collaboration.

Our cases show that Collaboration among stakeholders at all levels is a key factor for the accomplishment of innovative/entrepreneurial competency education. Tri parte cooperation, PPP(public-private partnership), formal-non formal collaborative learning are examples of collaboration.

- A. RESEARCH AND EVALUATION OF THE CASES WITHIN THE PROGRAMME
- B. LEARN FROM OTHER AND DISSIMINATION OF BEST PRACTISE
- C. CAPACITY BUILDING FOR TEACHERS AND SCHOOL LEADERS
 - Aligned with the national (education) objectives/directions
 - Mapping of teachers competences
 - Effective succession planning
 - Staffs and professional development

Part IV

4. The Case Studies

5. Annex

A. Gallery of site visits – Local Practice

Abbreviations

ASEM ME	Asia-Europe Meeting Ministers of Education
WG	Working Group
ASEF	Asia Europe Foundation
OECD	Organization of Economic Cooperation and Development