Initiatives for New Learning:
Sustainability, Integration, and Creativity

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Outline

- **International Lesson** on Initiatives for New Learning
- **A Study** of School-based Management & Paradigm Shift for Active & Sustainable Learning
- **An Integrated Learning Theory** for Multiple Thinking & Creativity


New Learning:
Multiple Thinking
Creativity
Integrated Learning
Life-long Learning
Sustainable Development

Initiatives for New Learning

- A Painful International Lesson in the Last Decade

Ed Initiatives in Asia-Pacific & Beyond

Challenges in New Century:

- Globalization
- IT & High T
- Economic Transformation
- International Competitions
- Marketization
- Local demands for development

Changing Ed Contexts & Ed Reforms in AP:

- Paradigm Shifts in Policy Concerns & Practice
- Aims & Content
- Learning Process
- Teaching & Curriculum
- Ed T &Facilities
- Student Composition

- Are the Initiatives really for Effective for Change in New Learning & Teaching?

Trends in Education Reforms in the Asia-Pacific Region

- Re-establishing National Vision & Ed Aims
- Restructuring School System
- Market-Driving, Privatizing, & Diversifying Ed

← Macro

- Parental & Community Involvement

← Messo

- Ensuring Ed Quality, Standards, & Accountability
- School-Based Management
- Prof Development of Teachers & Principals

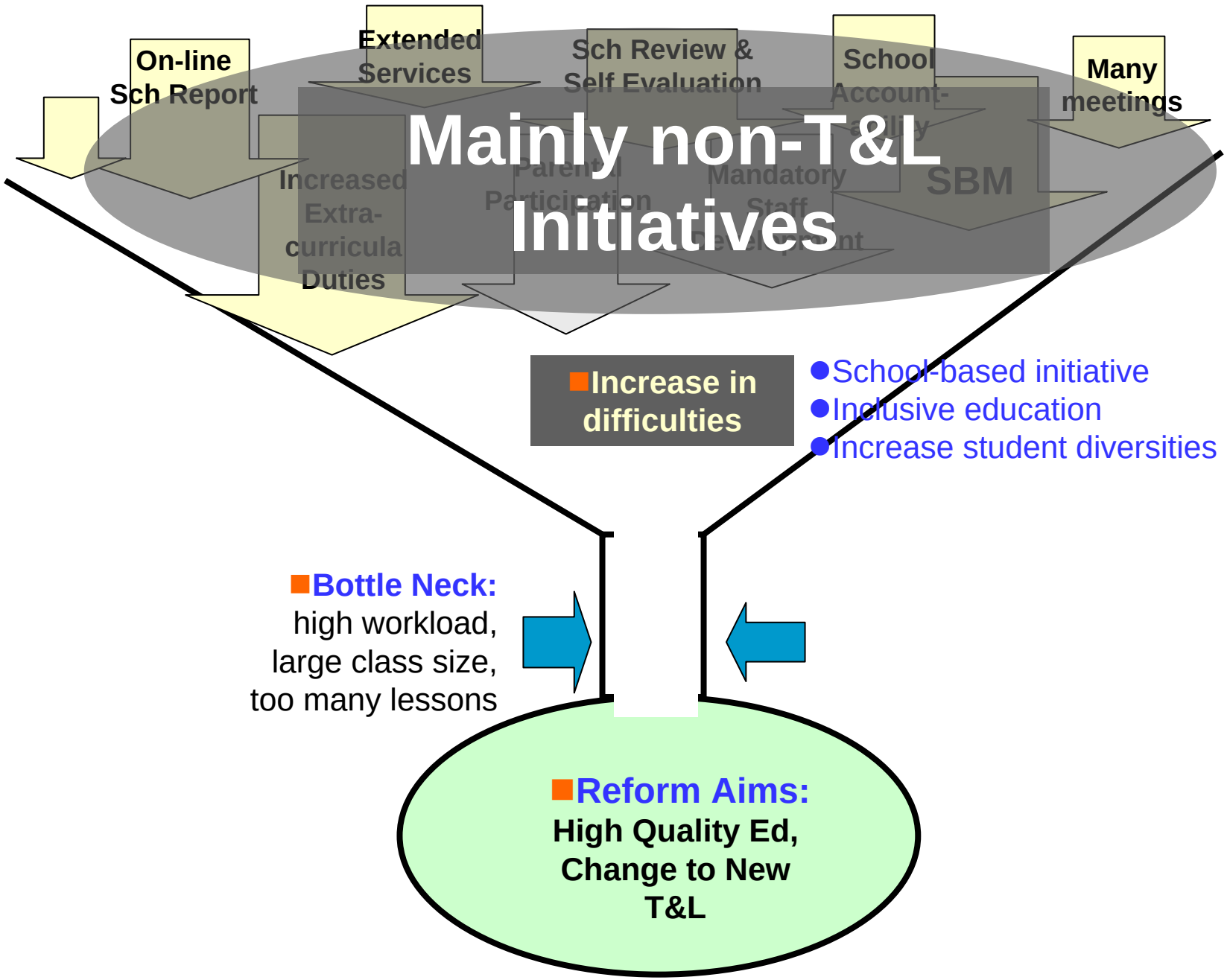
← Site

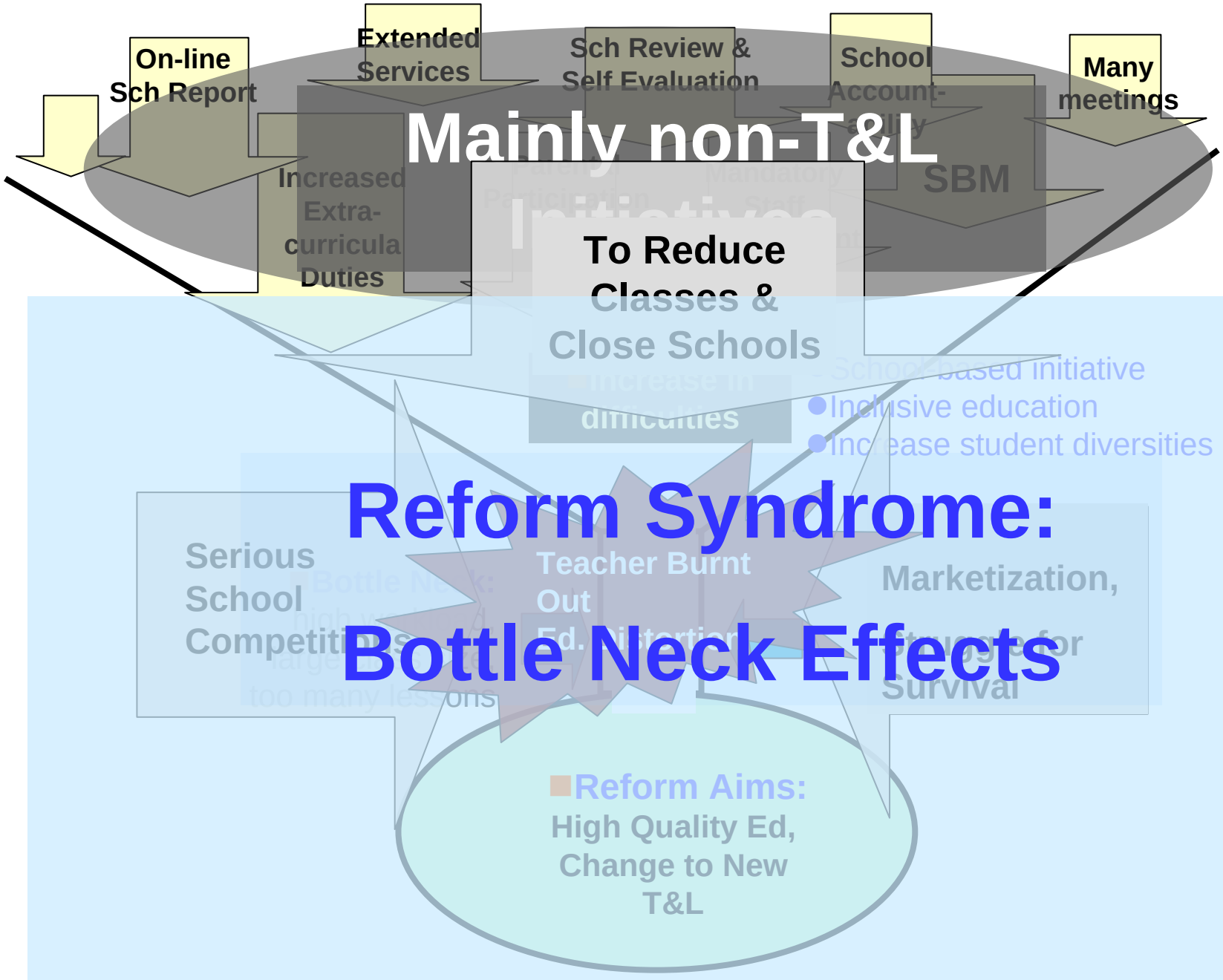
- Paradigm Shift in T, L & Curriculum
- IT & New T in Education

← Operational

Education Reform Syndrome

- **Across the Asia-Pacific Region**
- **One country reforms, other countries also reform and reform more.**
- **In a very short time, implement many initiatives in parallel**
- **Follow the emerging trends as soon as possible. e.g. QA, SBM, Accountability, Marketization, Curriculum,..**
- **Ignore their own cultural and contextual conditions**
- **Result in too many reforms with chaos and painful failures**


On-line Sch Report
Extended Services
Sch Review & Self Evaluation
School Account-ability
Many meetings
Increased Extra-curricula Duties
Parental Participation
Mandatory Staff Development
SBM
Mainly non-T&L Initiatives
Increase in difficulties
School-based initiative
Inclusive education
Increase student diversities
Bottle Neck:
high workload, large class size, too many lessons
Reform Aims:
High Quality Ed, Change to New T&L


On-line Sch Report
Extended Services
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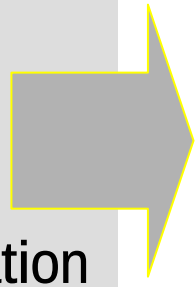
School Account-ability
Many meetings
Mainly non-T&L
Increased Extra-curricula Duties
SBM
To Reduce Classes & Close Schools
Reform Syndrome:
Bottle Neck Effects
Serious School Competition
Teacher Burnt Out
Marketization,
Reform Aims:
High Quality Ed, Change to New T&L

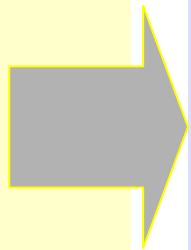
Emerging Evidence of Negative Impacts in Some Countries

- Marketization
- Over competitions
- Over management control
- Close monitoring
- De-professionalization
- Increasing work pressure
- Full of ambiguities & inconsistencies in policies



■Damaging teachers' well being & working conditions:

- Depression
- Burnt-out
- Overburdened
- Diverged from teaching



- Declining status of the teaching profession
- Losing competent teachers
- Damaging quality of teaching & learning

Emerging Evidence of Negative Impacts in Some Countries

- Marketization
- Over co
- Over m
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- Close n
- De-prof
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  pressu
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  policies

Damaging teachers' well being

Declining status of the teaching

npetent

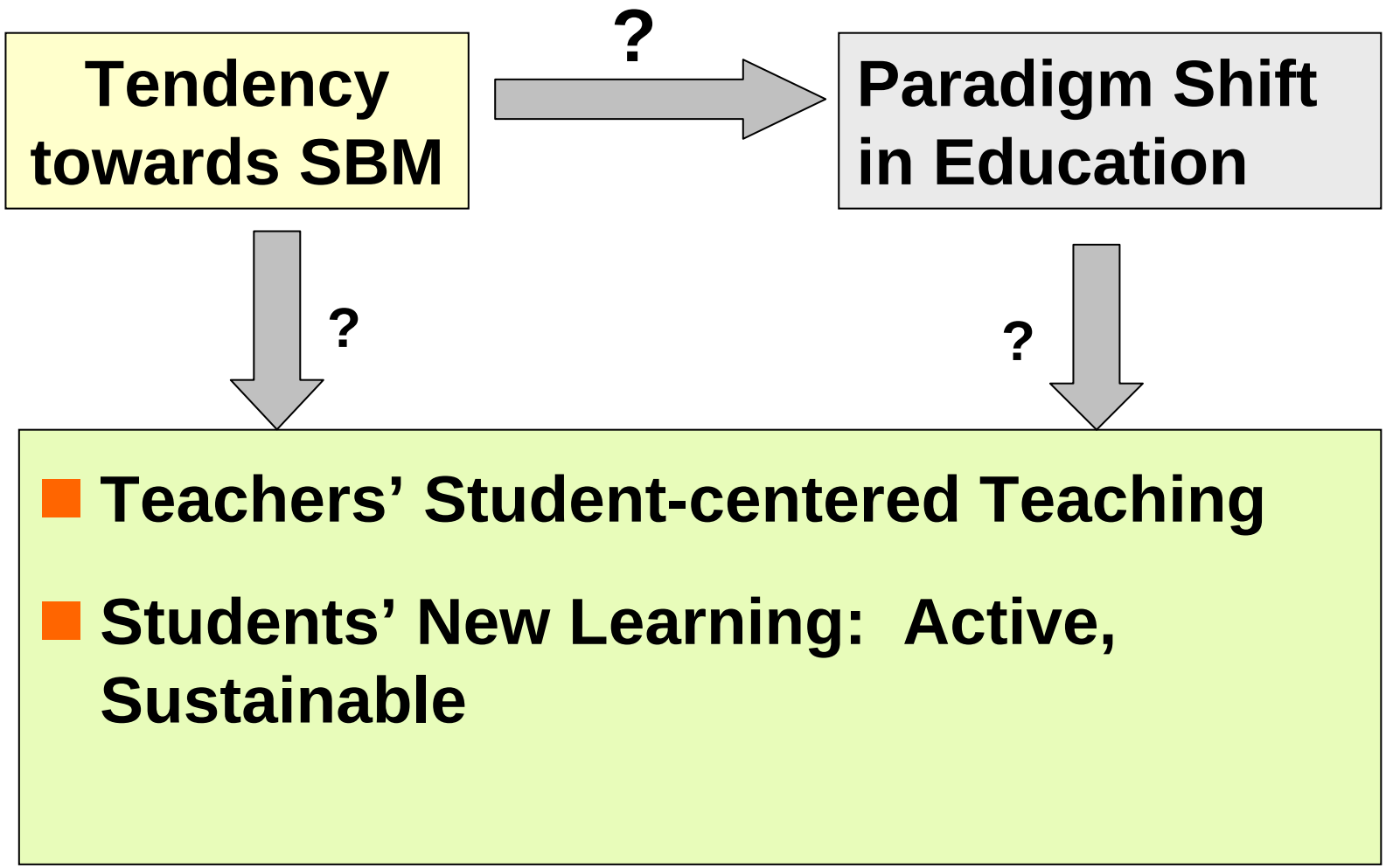
quality

Most Initiatives were not sustainable to achieve New Learning

- Research Needed!

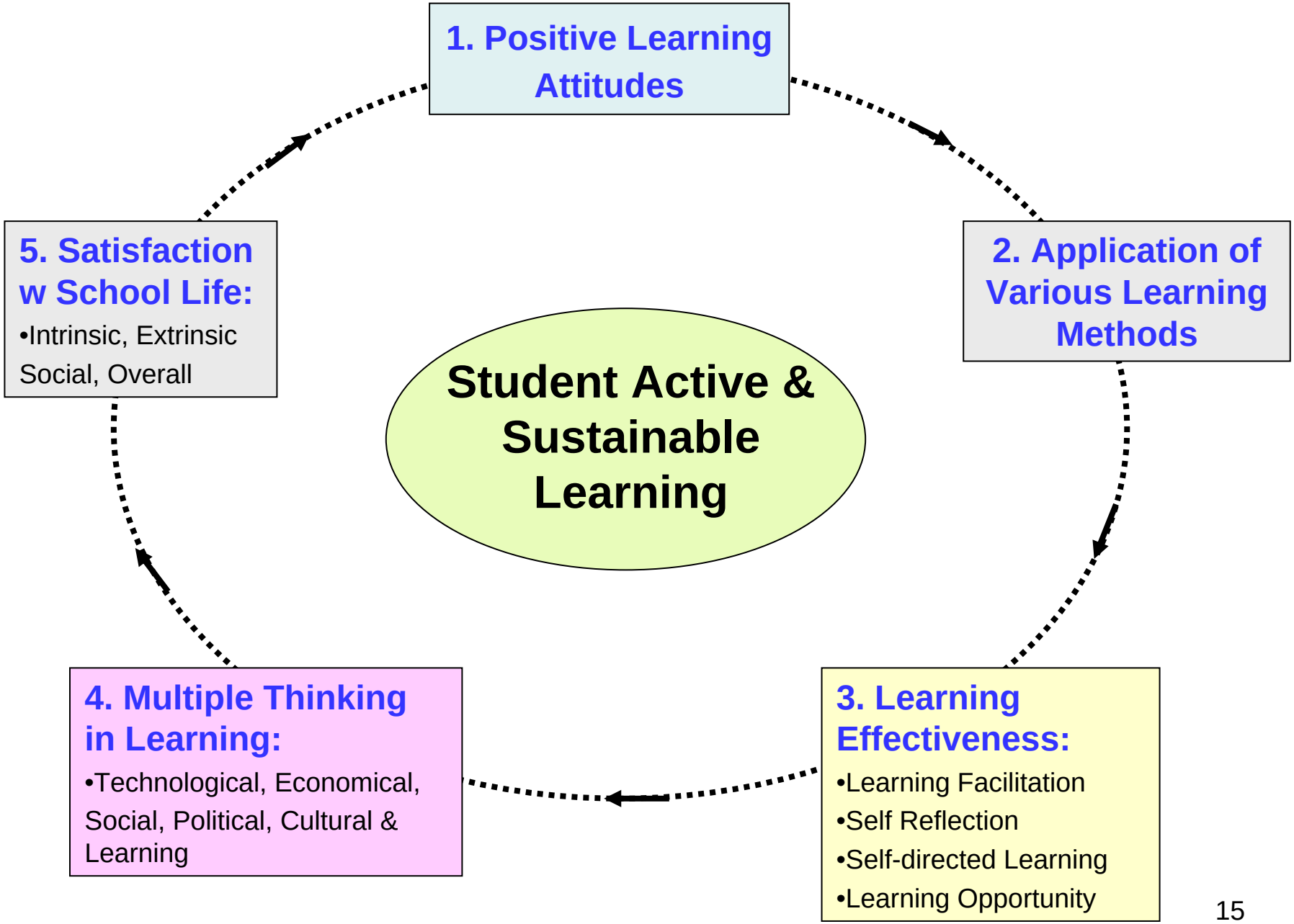
A Research Report

Cheng & Mok (2007, 2008)

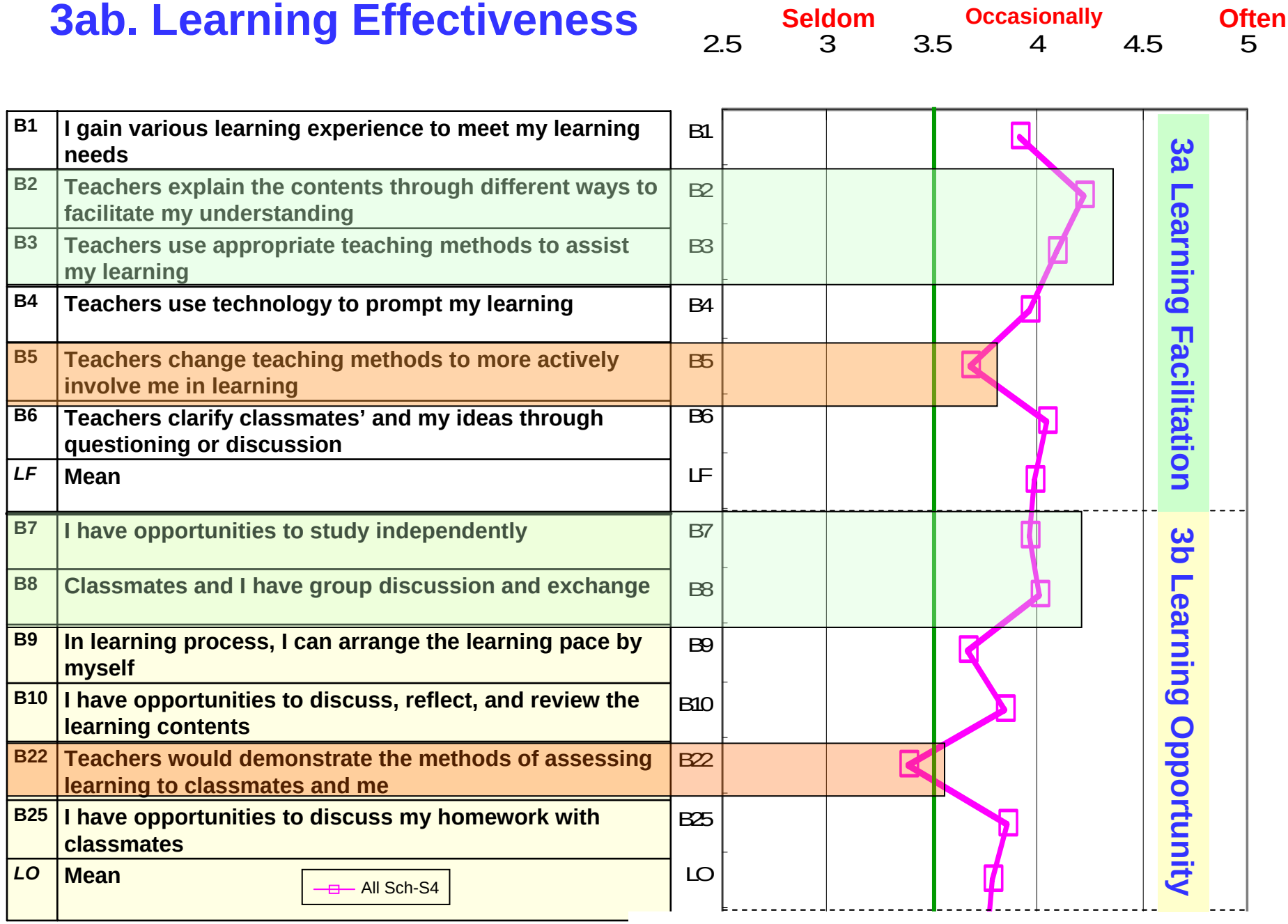


Samples

- **31 secondary schools in Hong Kong**
- **30 principals, 1119 teachers and 7063 students of G9 & G16**
- **Quantitative & Case Studies**

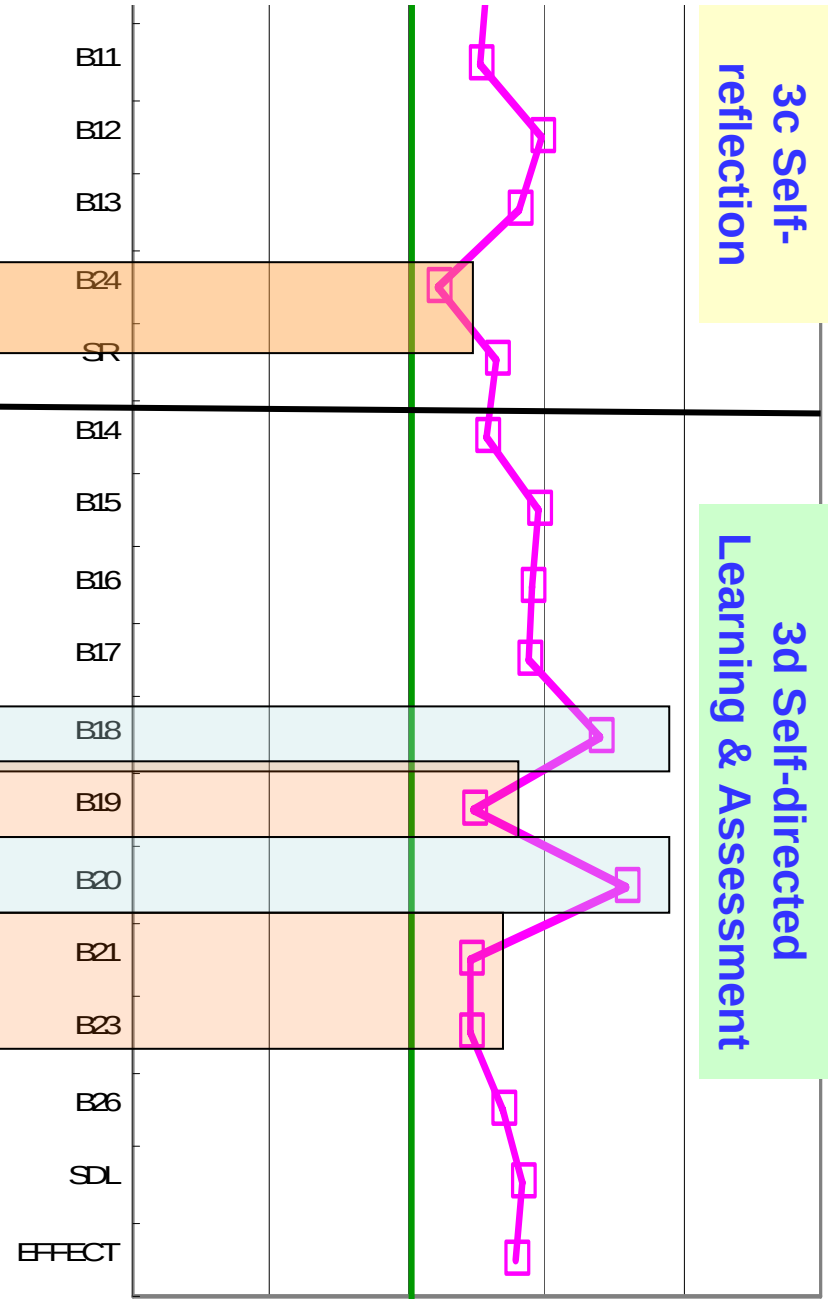

1. Positive Learning Attitudes
2. Application of Various Learning Methods
3. Learning Effectiveness:
•Learning Facilitation
•Self Reflection
•Self-directed Learning
•Learning Opportunity
4. Multiple Thinking in Learning:
•Technological, Economical, Social, Political, Cultural & Learning
5. Satisfaction w School Life:
•Intrinsic, Extrinsic Social, Overall
Student Active & Sustainable Learning

3ab. Learning Effectiveness

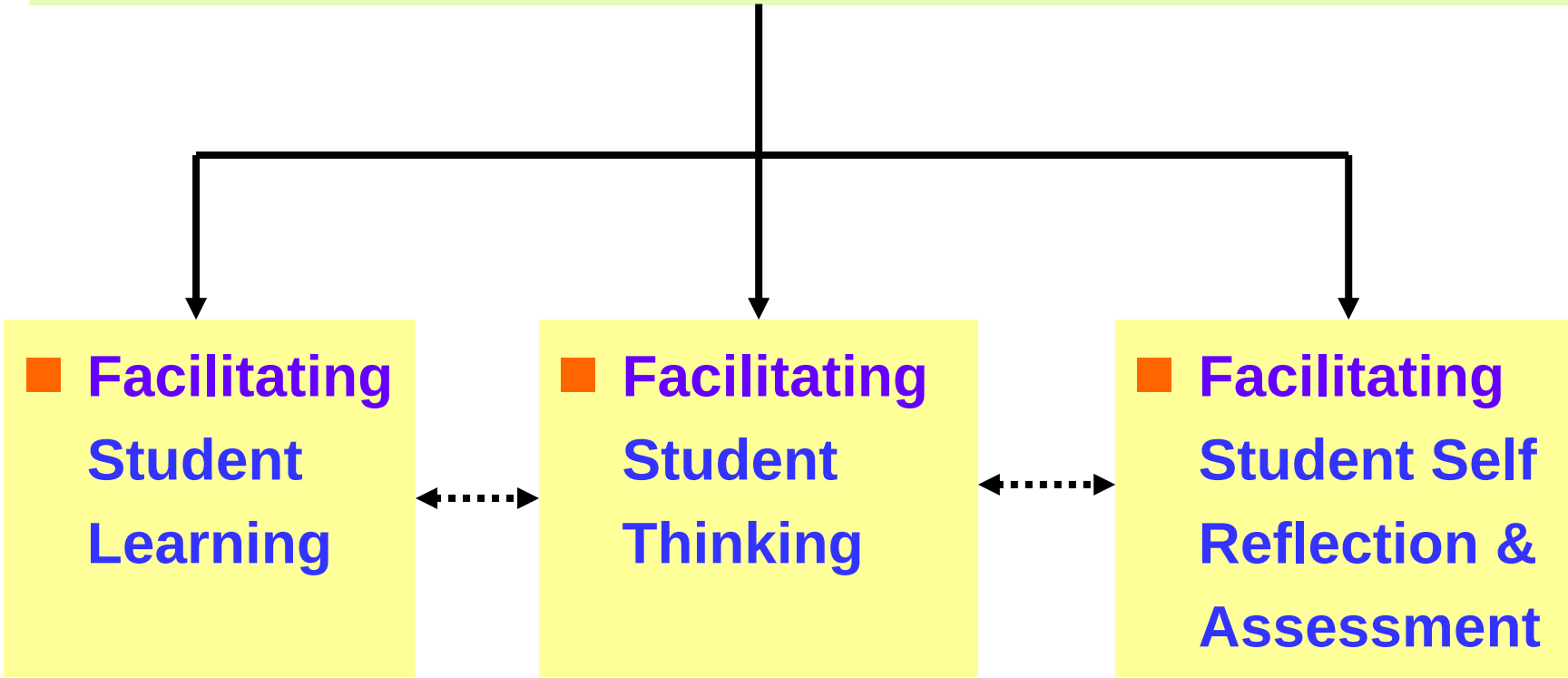


3cd. Learning Effectiveness

B11	I critically explore related learning topics	
B12	I think about and solve problems from multiple perspectives	
B13	I consider the learning contents from multiple prospective	
B24	Teachers facilitate me to acquire skills of self-reflection	
SR	Mean	
B14	I take initiative to study	
B15	I make effort towards challenging goals	
B16	I can describe clearly the process and progress of my learning	
B17	I know the learning goals of each classroom activity	
B18	I have opportunities to learn from peers	
B19	I know how to monitor my learning progress	
B20	I know how to gain new knowledge and information	
B21	I would assess the outcomes of my learning	
B23	I have opportunities to assess my own homework	
B26	I understand and monitor my progress towards learning goals	
SDL	Mean	
EFFECT	Total Mean	

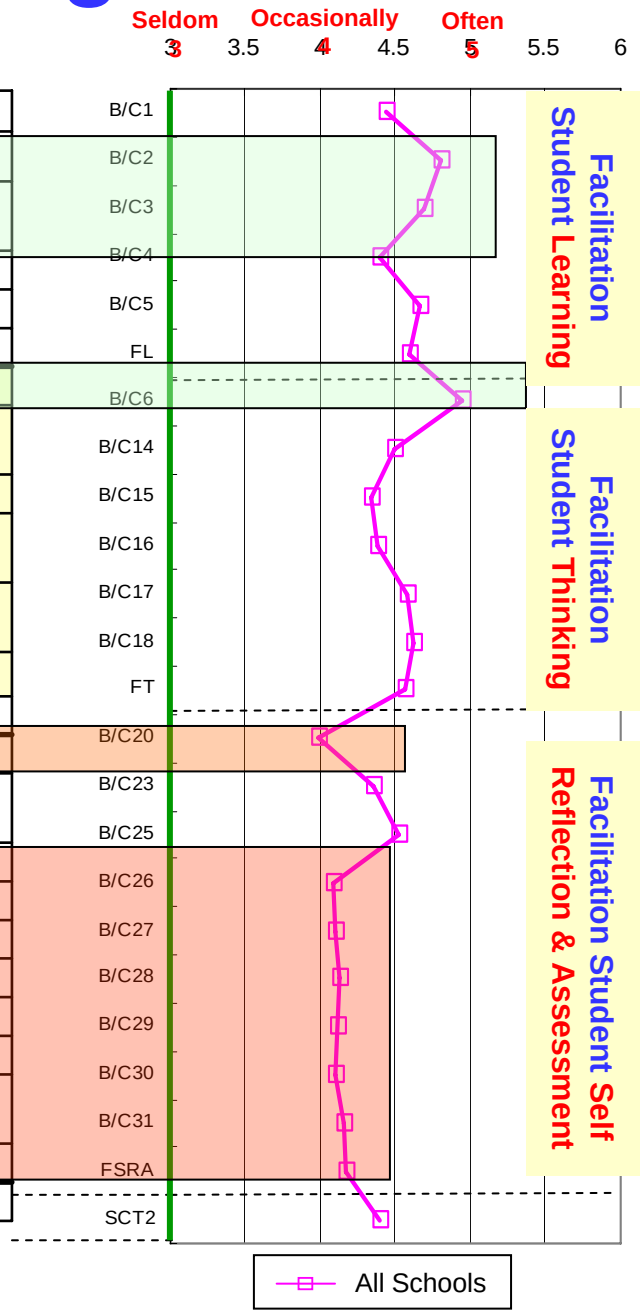


T's Student-centered Teaching

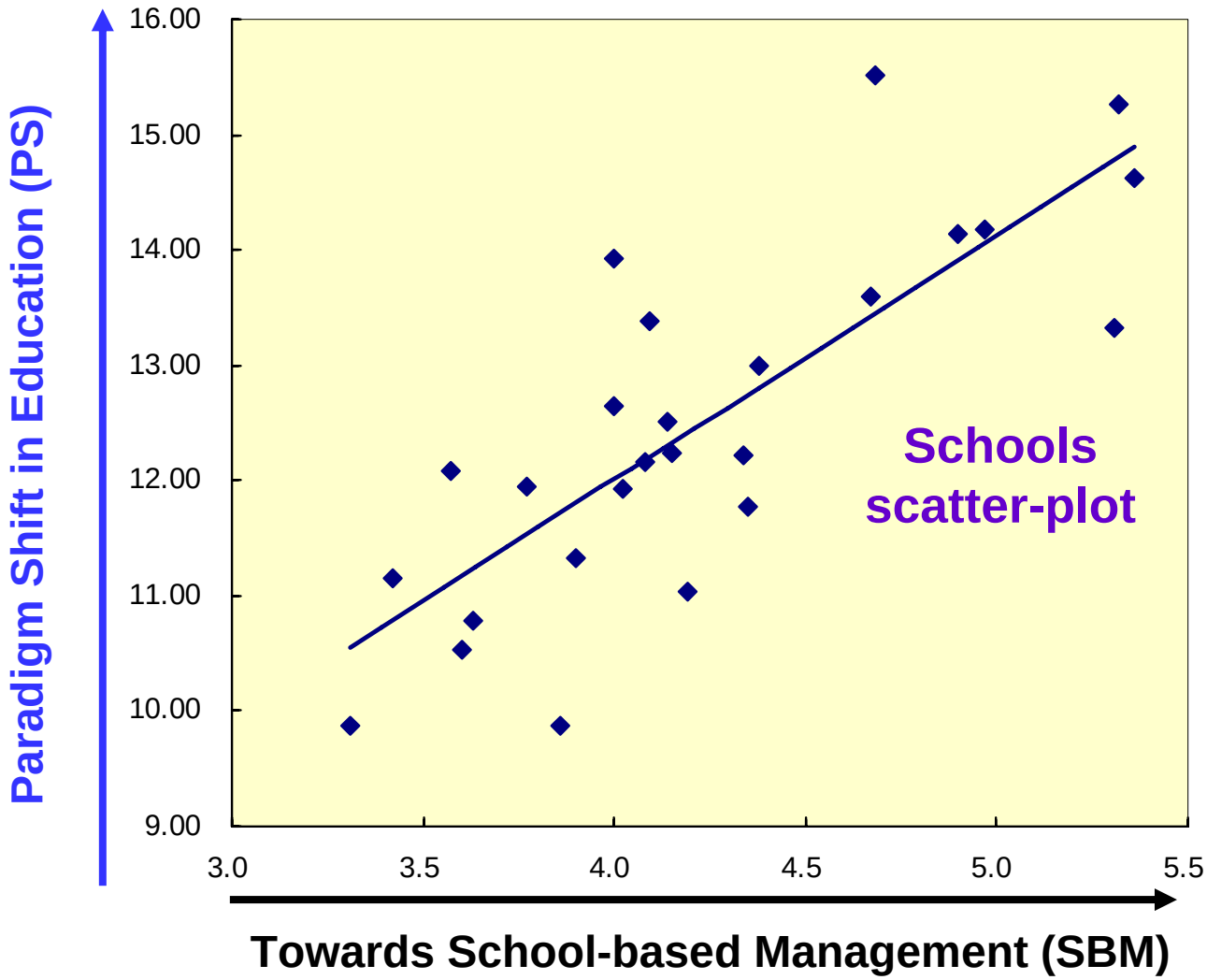


Student-centered Teaching

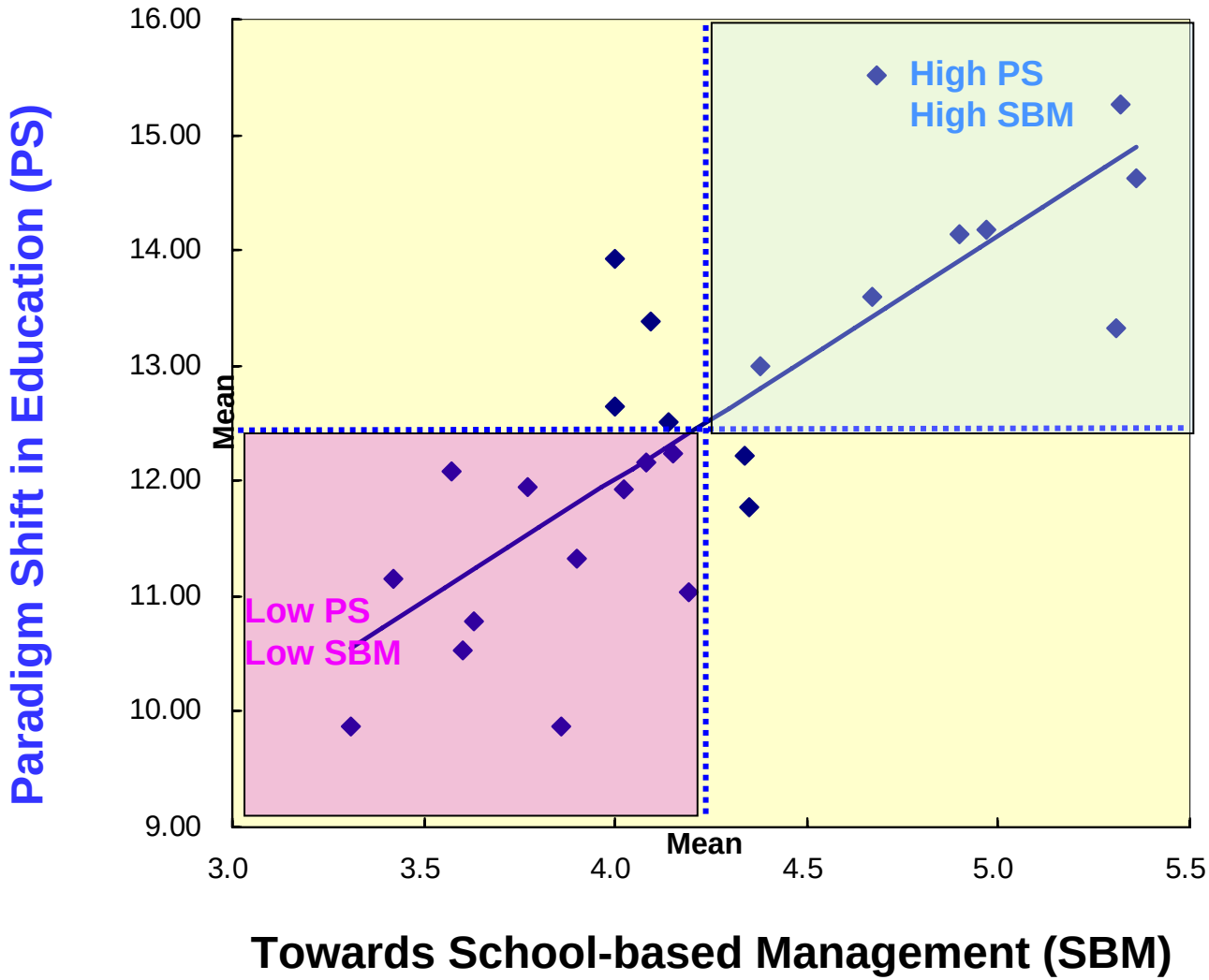
B1/C1	**Let students gain various learning experiences and match their learning styles.**
B2/C2	**Explain subject concepts with various methods to ensure all** students understand better.
B3/C3	**Change teaching materials and use appropriate teaching approaches to ensure each student fully engaged in learning.**
B4/C4	**Use technology to prompt students' learning.**
B5/C5	**Change strategies to ensure students more actively participating in learning.**
FL	***Sub-scale***
B6/C6	**Use enquiry or discussion to clarify students' ideas and widen their thought.**
B14/C14	**Provide all students opportunities of thinking, discussing, communicating, reflecting, and reviewing learning contents.**
B15/C15	**Facilitate all students to critically explore the related concepts and issues.**
B16/C16	**Facilitate all students to participate in problem solving, think from multiple perspectives, and find various solutions.**
B17/C17	**Encourage all students to raise critical questions and consider the learning contents from multiple perspectives.**
B18/C18	**Facilitate all students to analyze learning contents and draw conclusions.**
FT	***Sub-scale***
B20/C20	**Encourage all students to describe their own learning process and progress.**
B23/C23	**Facilitate all students to understand, reflect, and monitor their own learning with appropriate methods.**
B25/C25	**Integrate assessment into students' learning process.**
B26/C26	**Demonstrate the methods of assessment for learning to all students.**
B27/C27	**Set up appropriate guidelines to facilitate students to assess their own homework.**
B28/C28	**Facilitate all students to gain skills of self-reflection.**
B29/C29	**Provide opportunities to students to discuss their homework with peers.**
B30/C30	**Facilitate all students to understand and monitor their own learning goals.**
B31/C31	**Provide opportunities to students to demonstrate and reflect their learning activities inside and outside class.**
FSRA	***Sub-scale***
SCT2	**Scale**



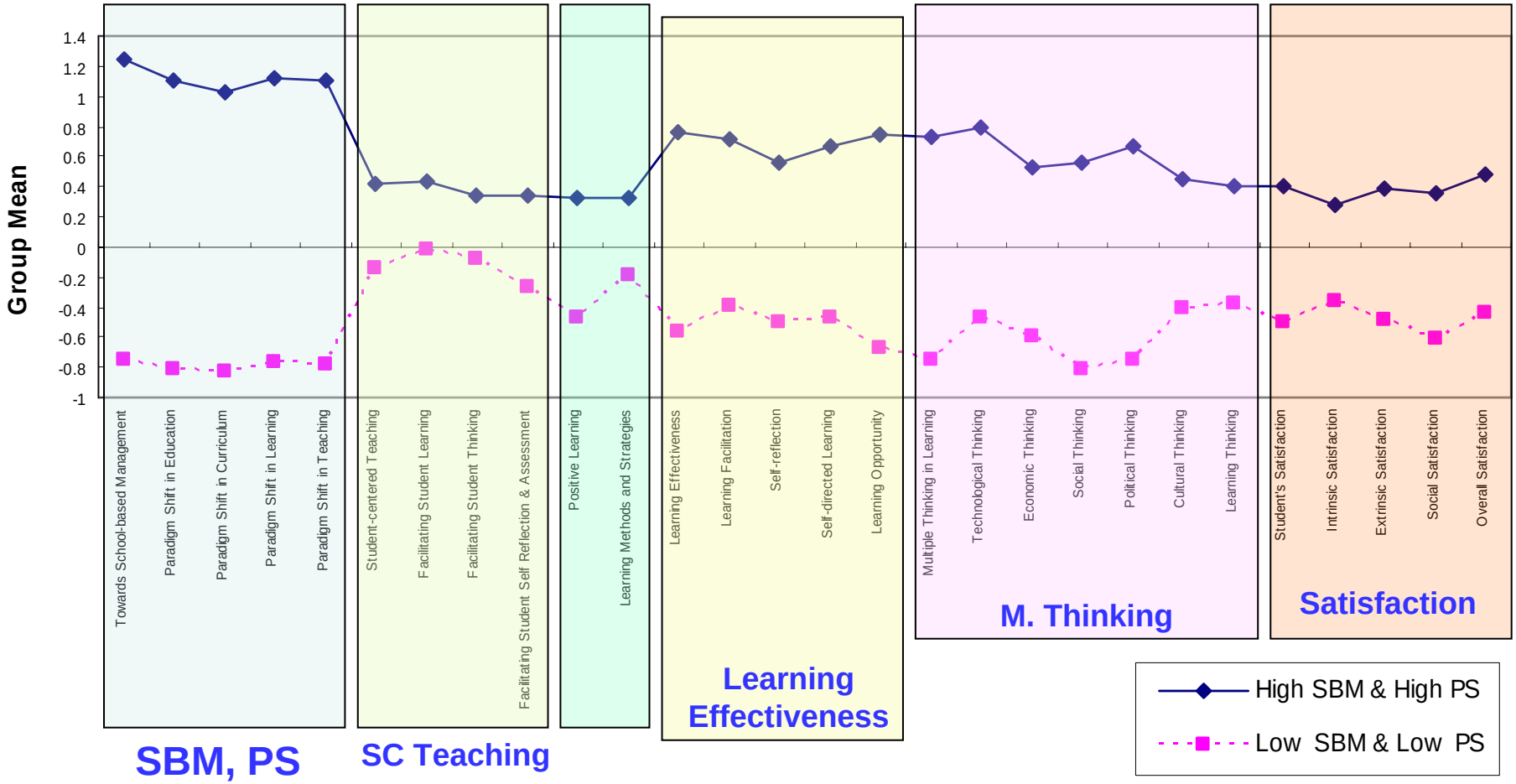
Towards School-based Management vs
Paradigm Shift in Education



"High SBM & High PS" Schools vs "Low SBM & Low PS" Schools

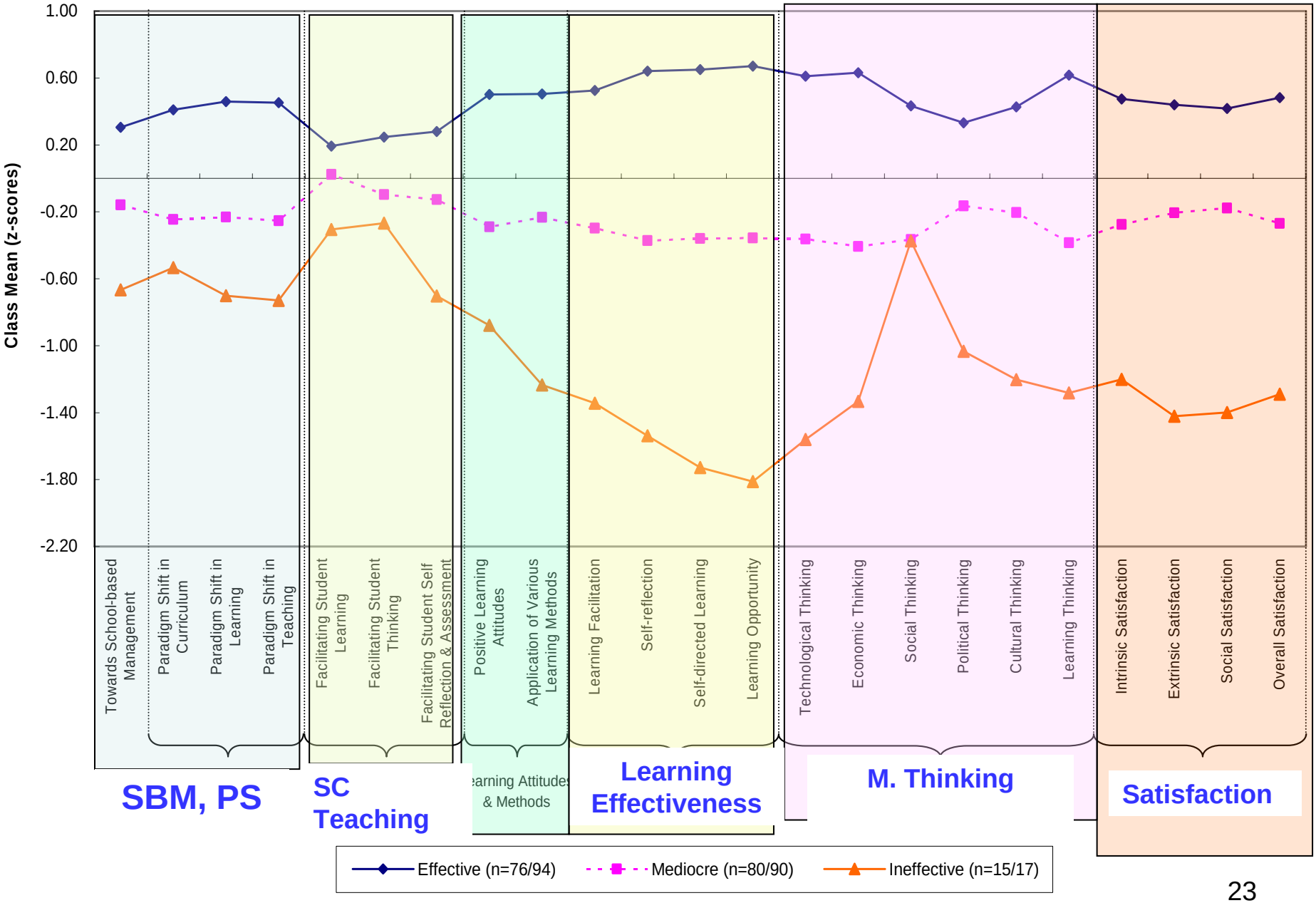


Profiles of "High SBM & High PS" Schools & "Low SBM & Low PS" Schools



All scores are Z-scores;
SBM: Towards School-based Management; PS: Paradigm Shift in Education;
No. of schools in High PS & High SBM Group = 8,
No. of schools in Low PS & Low SBM Group = 12

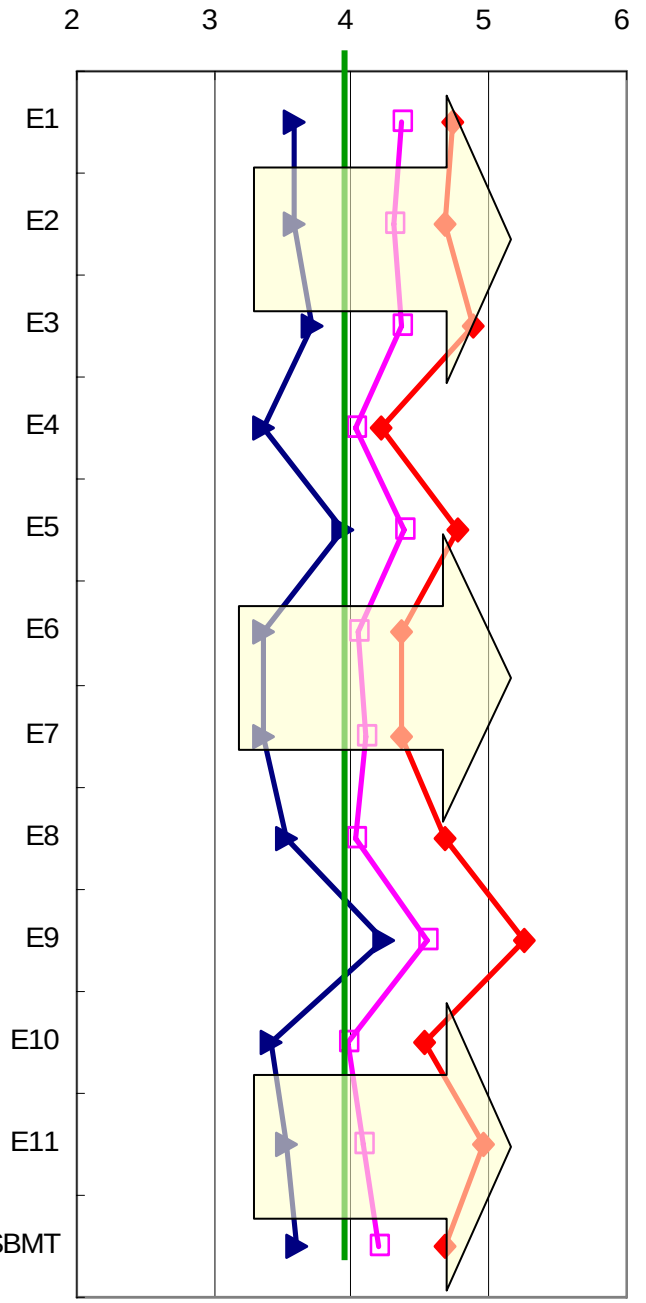
Profiles of Effective, Mediocre & Ineffective Classes



- **What implications for facilitating active and sustainable learning?**

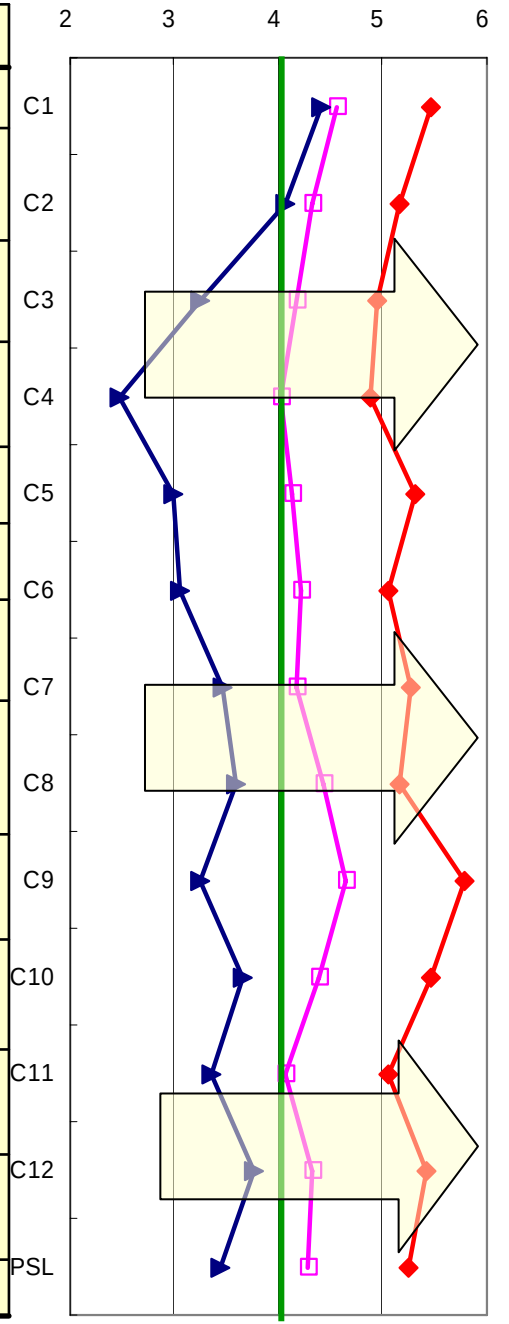
1. Paradigm Shift in Management

	External Control Management (1)	School-based Management (7)
E1	The school's mission is given by senior management. Members do not need to develop and accept it and may be not responsible for it.	The school's mission is developed and shared by all members who are willing and committed to realize it.
E2	The content and methods of management and education are determined by external factors.	management and education are based on the school's own characteristics and needs.
E3	School is a career place. The staff members are employees whose stay depends on their usefulness.	School is a place for growth where the staff members have opportunities to develop.
E4	Centralization of authority: Decisions are made by administrative staff.	Teachers (even parents & students) participate in decision making.
E5	The government regulates strictly how to use resources. It is hard to meet the school needs, solve problems in time, and find new resources.	The school has its autonomy to use resources according to its needs, solve problems in time, and find new resources for education.
E6	The school executes the tasks assigned by government according to administrative procedures and avoids mistakes.	The key role of school is to develop its unique conditions, students, teachers, and the school itself.
E7	The roles of administrative staff are goal keepers, personnel monitors, and resources controllers.	The roles of administrative staff are goal developers and leaders, human resources drivers and coordinators, and resources developers.
E8	The roles of teachers are employees and passive executers.	The roles of teachers are partners and active developers.
E9	The roles of parents are passive, and they can not participate in and cooperate with the school.	The roles of parents are partners and supporters, and they actively cooperate with the school.
E10	In school, there is a hierarchical climate and inevitable disagreements between staff members because of diversity in interests.	In school, staff members have team spirit, cooperate openly, and share responsibilities.
E11	The school emphasizes the achievements from the final examinations, and ignores process and development in education. Evaluation is a means for administrative monitoring.	The school evaluation emphasizes multi-aspects and multi-indicators. Academic achievements are just one of indicators. Evaluation is a learning process and a means for improvement.
	Scale	



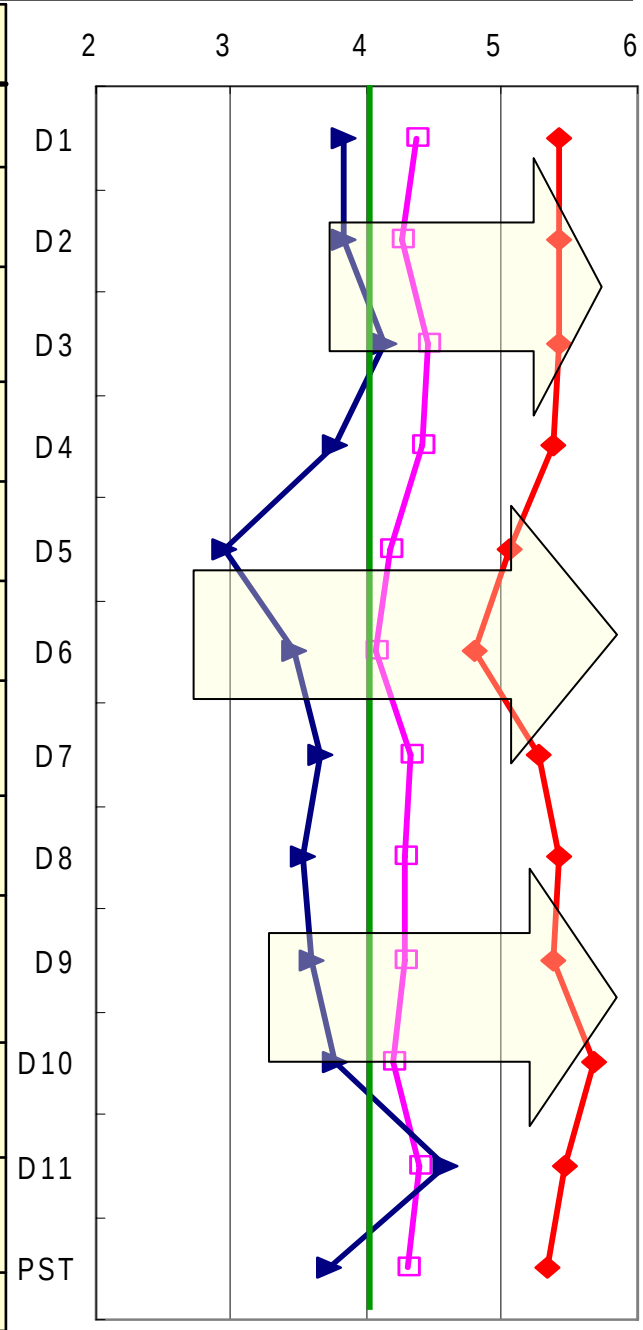
2. Paradigm Shift in Learning

	Site-bounded Paradigm (1)	CMI-Triplization Paradigm (7)
C1	Students are teachers' apprentices.	Students are the center of education.
C2	Students study in the same way and by the same pace. The ability differences are ignored and individualized curriculum is not feasible.	Students have their own potentials and can learn in different ways. Individualized curriculum is necessary and feasible.
C3	Students are teachers' "students" who learn from teachers and absorb knowledge.	Students are self-directed and independent learners who just need appropriate guidance and help.
C4	Learning is a process of disciplining, receiving, and socializing, that needs strict monitoring and control.	Learning is a process of self actualizing, experiencing and reflecting and needs systematic help and support.
C5	The focus of learning is to learn how to acquire knowledge and skills.	The focus of learning is to learn how to learn, think and create.
C6	Learning is trying to get external return and avoiding penalty.	Learning is interesting and self rewarding.
C7	Teachers are the main source of knowledge and learning.	Students can learn from many sources, inside and outside school, locally and globally.
C8	Students are arranged to learn separately, be responsible for themselves, and have few opportunities to support and learn from each other.	Through group and networked learning and mutual sharing and inspiring, the learning climate can be sustained and the learning effect can be multiplied.
C9	Learning only occurs at specific time in school. Graduation is regarded as the termination of learning.	School education is the beginning of learning but not the whole learning. Learning can occur at any place and any time.
C10	Students learn a standard curriculum from textbooks and materials specified by teachers.	Students access to local and global information and learn openly through internet, video-conferencing, cross-cultural activity, and multimedia materials.
C11	The targets of students' learning are teachers and the materials prepared by teachers.	The targets of students' learning include world class teachers, experts, peers and learning materials in different parts of the world.
C12	Learning is separated from the fast changing society.	Students participate in local and international learning programs to acquire view and experience beyond their school.
PSL	*Sub-scale*	



3. Paradigm Shift in Teaching

	Site-bounded Paradigm (1)	CMI-Triplization Paradigm (7)
D1	Teachers are the center of teaching.	Teachers provide assistance and guidance to support students' learning.
D2	Teachers possess professional capacity of teaching knowledge and skills.	Teachers have multiple perspectives and capacity to facilitate students developing multiple intelligence.
D3	Teachers must teach in a standard way and ensure students acquire a fix amount of standardized knowledge.	Teachers have their own potentials and styles. They can contribute to students' development in different ways.
D4	The main job of teachers is to teach some knowledge and skills.	The key of teaching is to arouse students' curiosity and motivation to think act, and learn.
D5	Teaching is a process of disciplining, teaching, training and socialization.	Learning is a process of stimulating, facilitating, and sustaining students' self learning and self fulfillment.
D6	Teaching is to try to help students and the school reaching some external standards.	Teaching is to share the joy of learning process and outcomes with students.
D7	Teaching is for teachers to practice, apply, or disseminate knowledge.	Teaching is a process of lifelong learning, including sustainable discovering, experiment, self-fulfillment, reflection, and professional development.
D8	School is the main site of teaching, and teachers are the main source of knowledge.	There are many sources of teaching, inside and outside school, locally and globally.
D9	Teachers teach separately and are responsible individually. They have few opportunities to support and learn from each other.	Through various ways and mutual sharing and inspiring, teachers have team cooperation to multiply the teaching effect.
D10	What teachers need to teach are textbooks and materials assigned by the school and government authority.	Teachers can provide world class materials and learning opportunities for students through internet, cross-cultural activities and multiple information.
D11	Teachers and teaching contents are disjointed with the changing local and global communities.	Teachers participate in local and international teaching activities to acquire views and experiences beyond school.
PST	***Sub-scale***	



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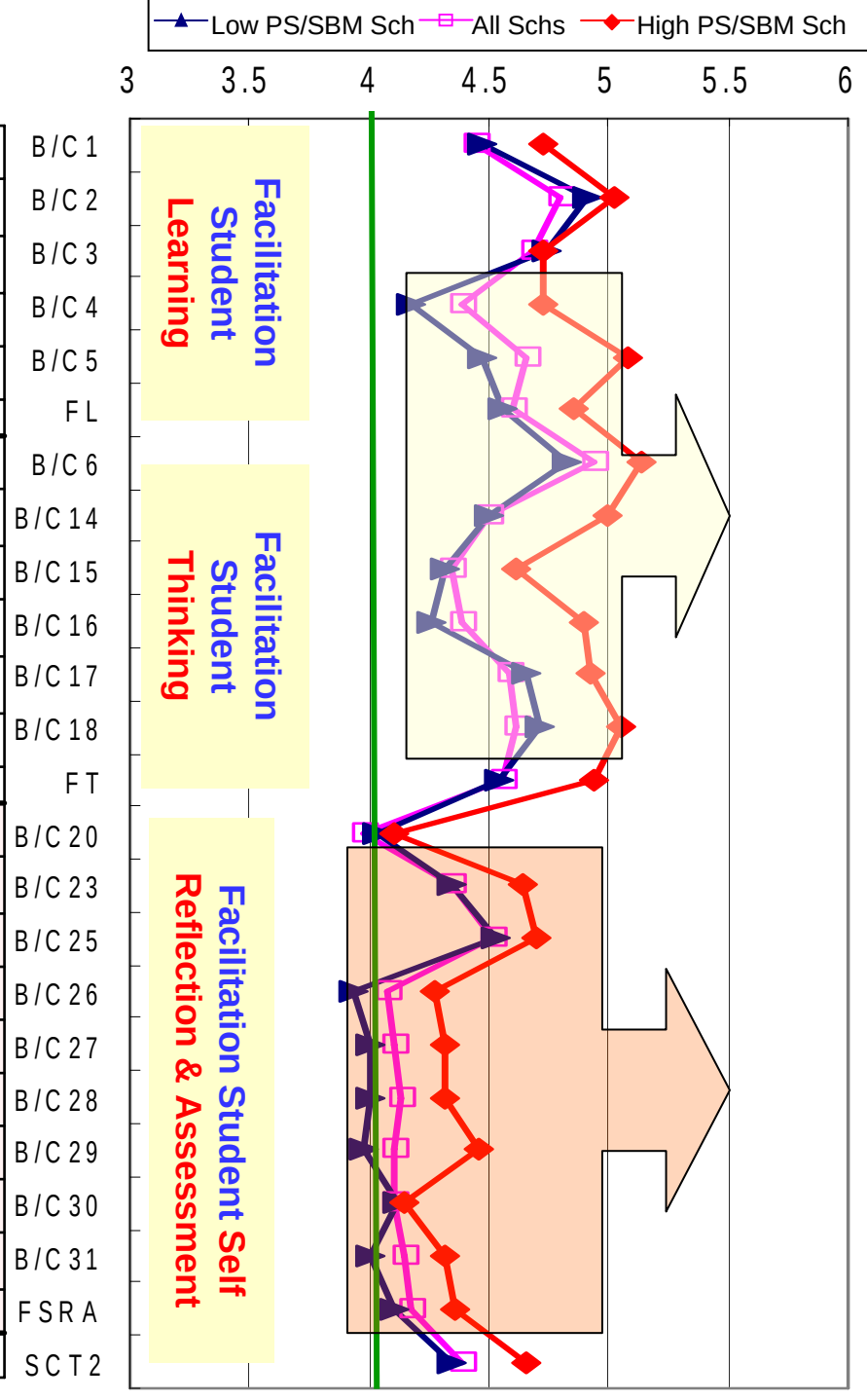


Further Challenges

In addition to promote active & sustainable learning,

How can our initiatives really facilitate student's new learning to

- **Develop Multiple Thinking?**
- **Perform Creativity ?**

- Currently, many New Initiatives in Curriculum and Pedogogy to promote Integrated Learning locally & internationally

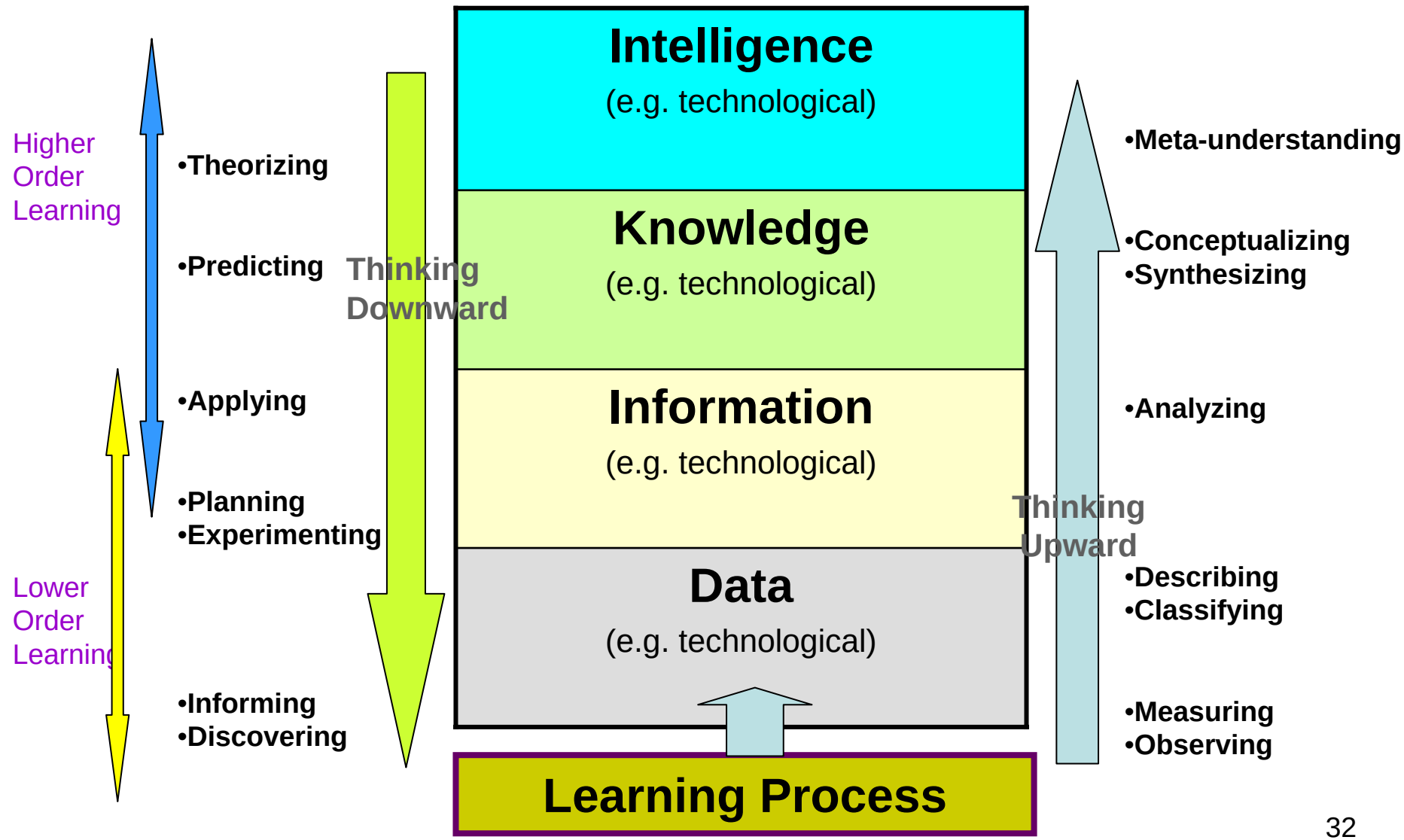
  - **Can integrated learning really create optimal opportunity to promote MT & Creativity?**

  - **What kind of integrated learning would be effective?**

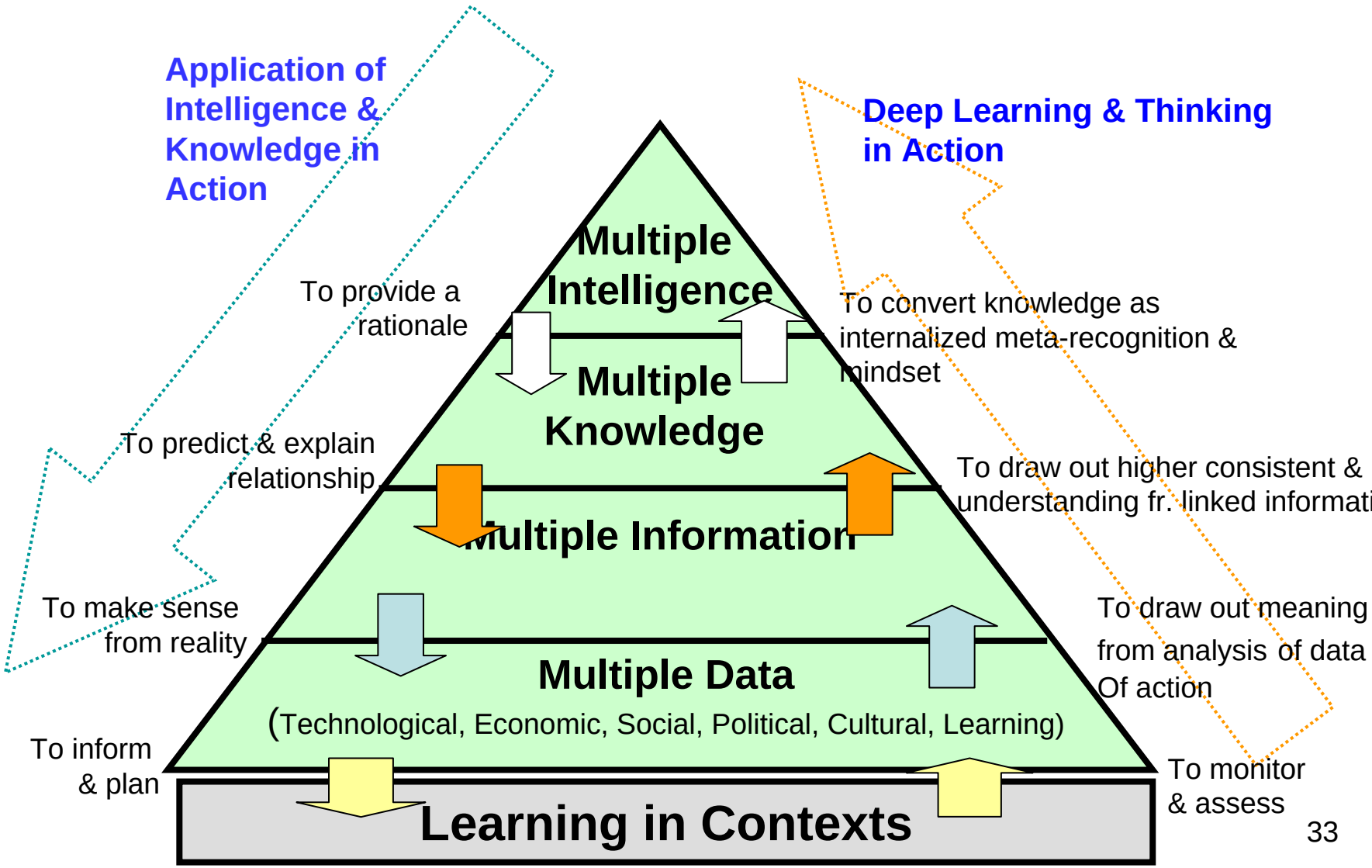
- **A Theory of Integrated Learning for Multiple Thinking and Creativity**

Vertical Thinking in Learning

Within One Domain



Levels of Thinking in Multiple Contexts



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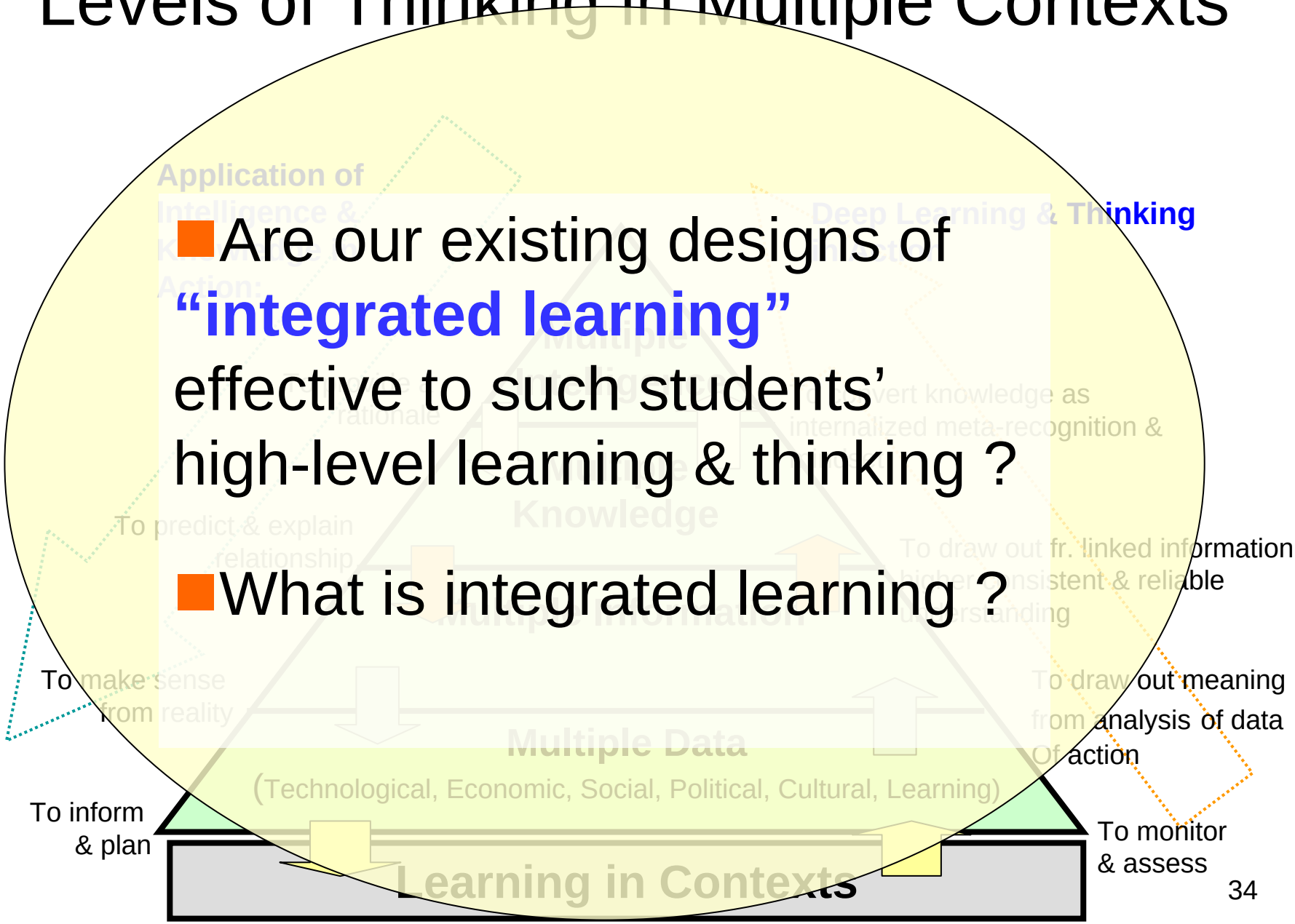


- Are our existing designs of **"integrated learning"** effective to such students' high-level learning & thinking ?
- What is integrated learning ?

Basic Types of Integrated Learning

A. Content Types of Integration

1. **Subject Integration**
2. **Domain Integration**

B. Pedagogical Types of Integration

3. **Method Integration**
4. **Cognitive Integration.**

1. Subject Integration Type

Integrating the subject/ disciplinary content in learning

e.g.

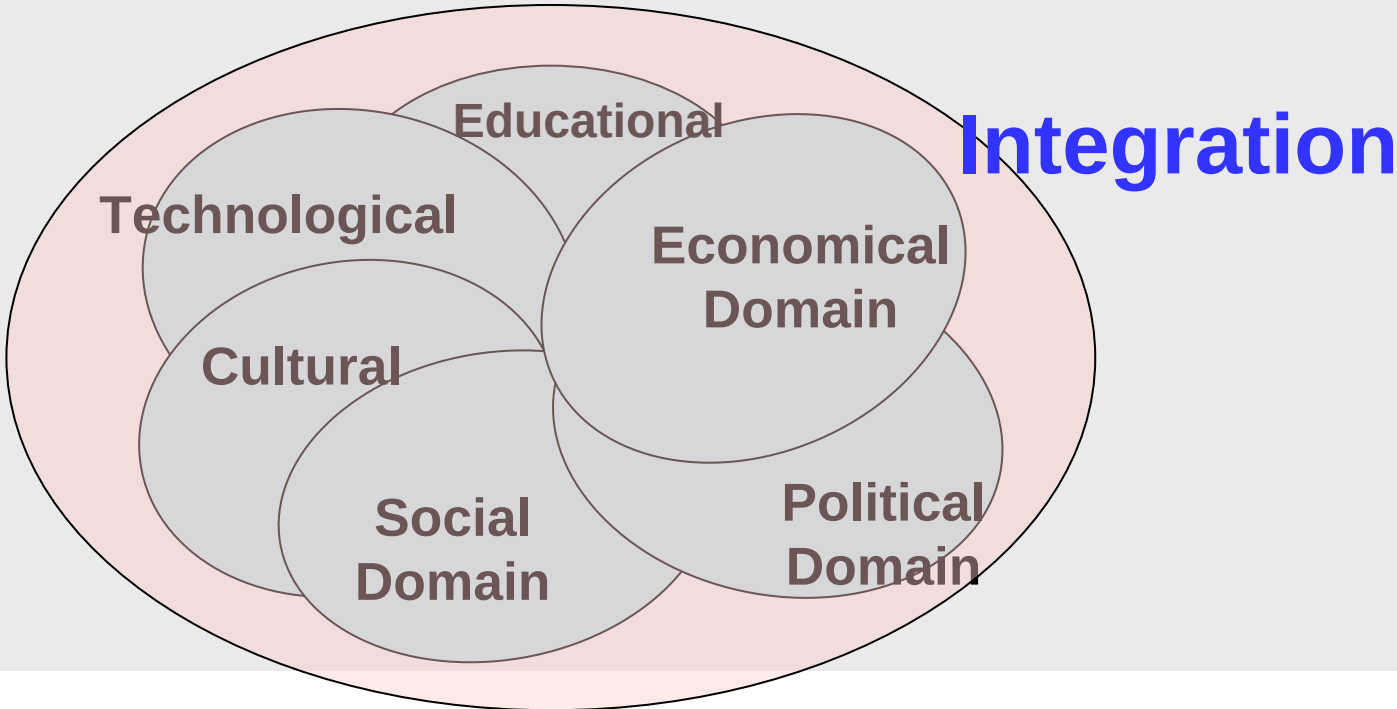
- **Integrated Sciences** (integrating Physics, Chemistry, Biology, etc.)
- **Integrated Social Sciences** (integrating Geography, Sociology, Economics, Political Science, etc.)
- **Integrated Humanities** (integrating Arts, Philosophy, History, Anthropology, etc…)

2. Domain Integration Type

Integrating domains of knowledge or disciplines in learning

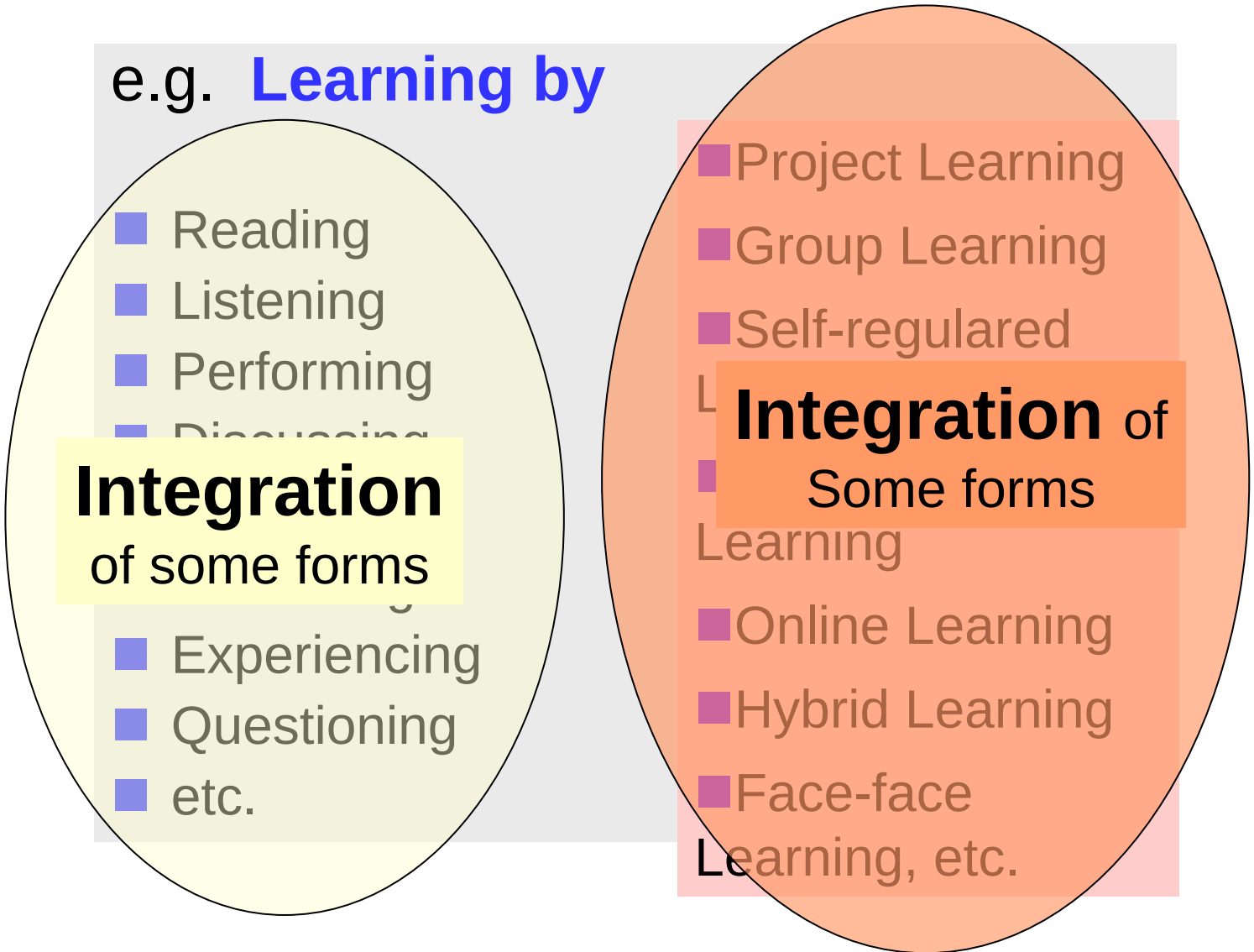
e.g.

- **Liberal Studies**
- **Multi-domain Studies**



3. Method Integration Type

Integrating various methods in learning



4. Cognitive Integration Type

Integrating different cognitive activities in learning

- Observing
- Measuring
- Classifying
- Describing
- Analyzing
- Synthesizing
- Conceptualizing
- Meta-understanding
- Etc.

Integration of cognitive activities

- **Theorizing**
- **Predicting**
- **Applying**
- **Planning**
- **Experimenting**
- **Informing**
- **Discovering**
- **Etc.**

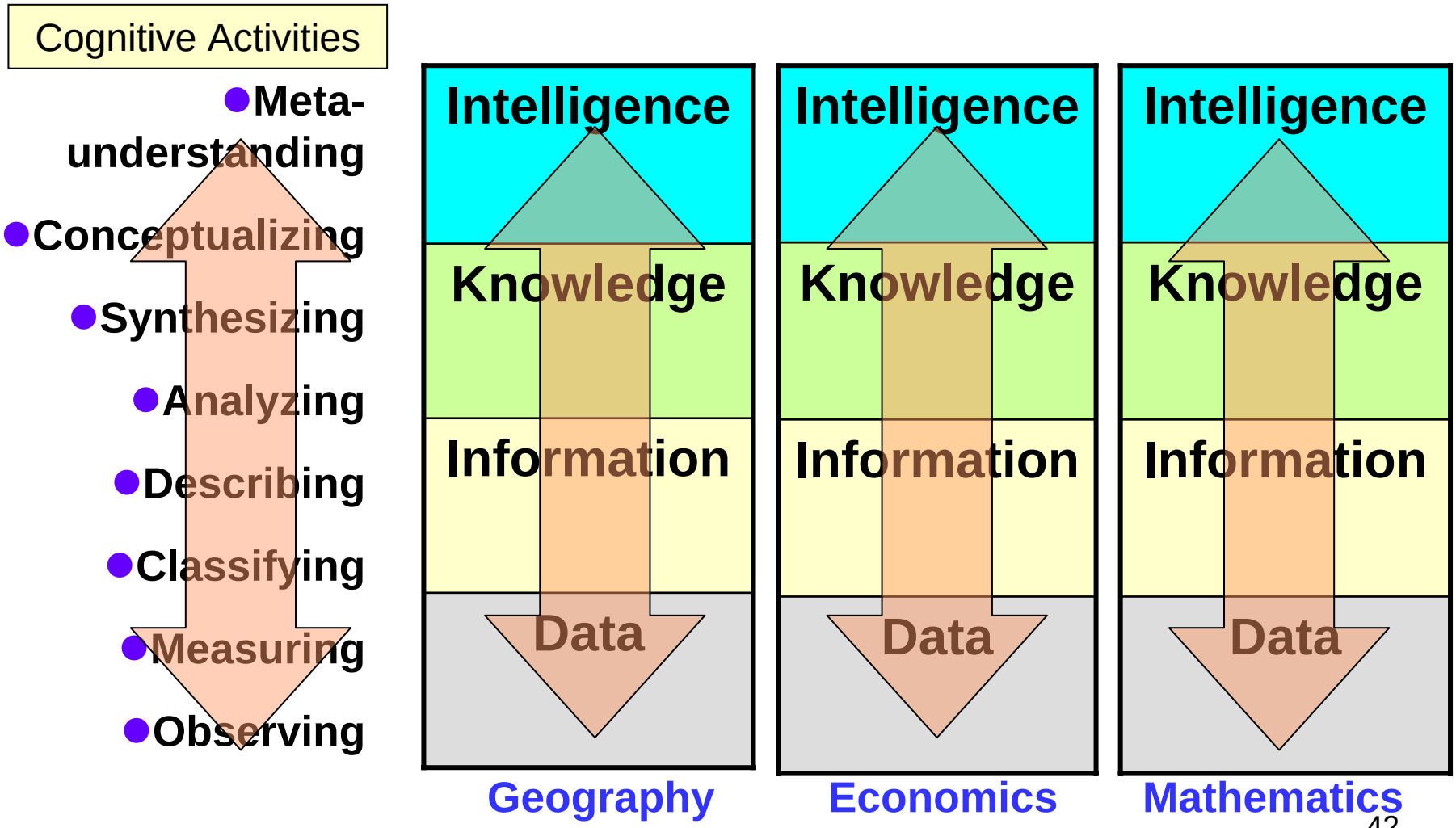
Theory of Integrated Learning

- **Principle 1:**
  - **More integration in content or pedagogy →**
  - **More exposure & more complexity in learning**

Theory of Integrated Learning

- **Principle 2:**
  - **More exposure & more complexity in learning →**
  - **More demanding for & challenging to students' limited ability, effort & time**
- **May not result in learning more and deeper, depending on various factors**

Traditional Learning: Vertical Cognitive Integration in Separated Subject Learning



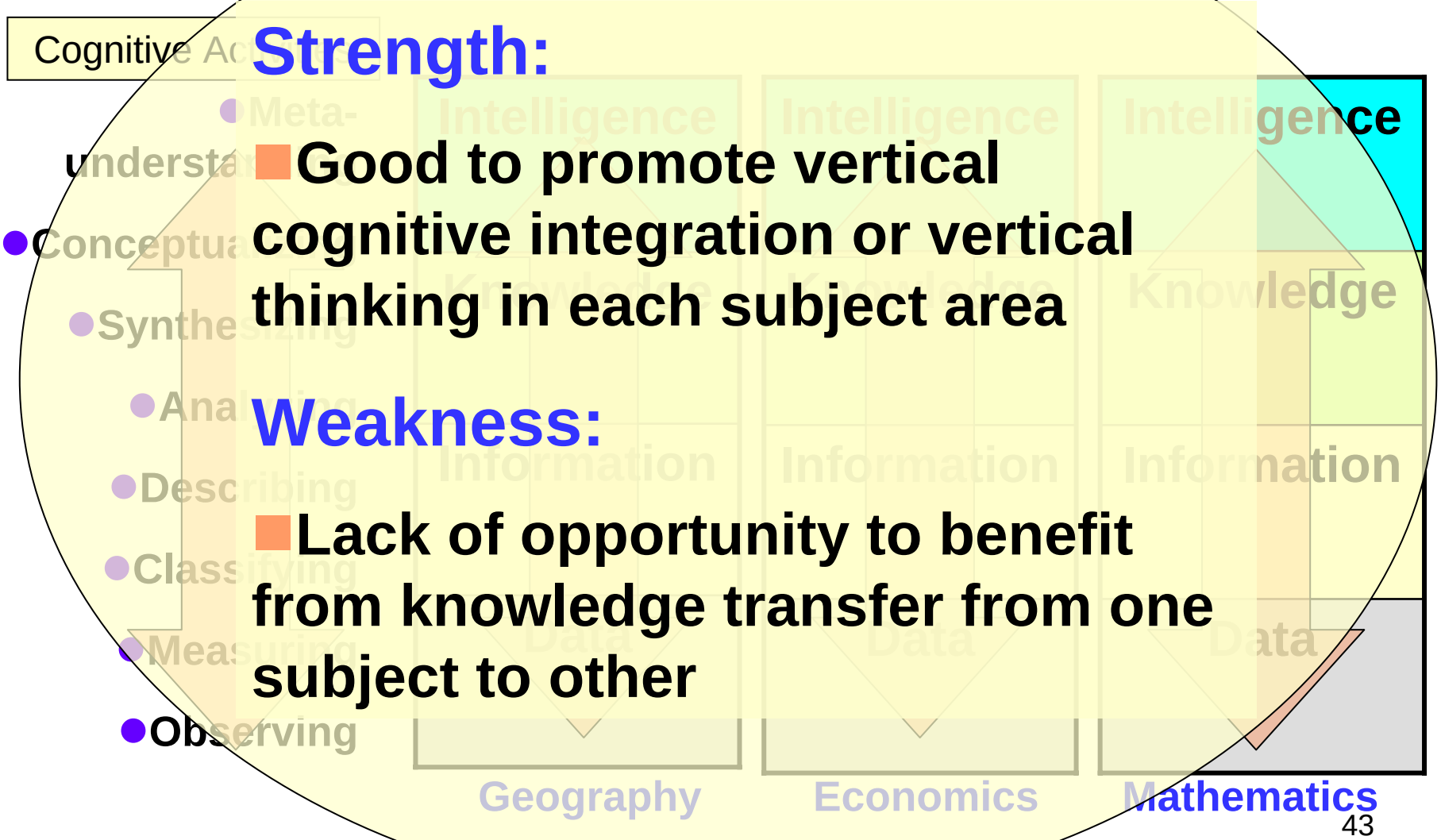
Traditional Learning: Vertical Cognitive Integration in Separated Subject Learning

Strength:

- Good to promote vertical cognitive integration or vertical thinking in each subject area

Weakness:

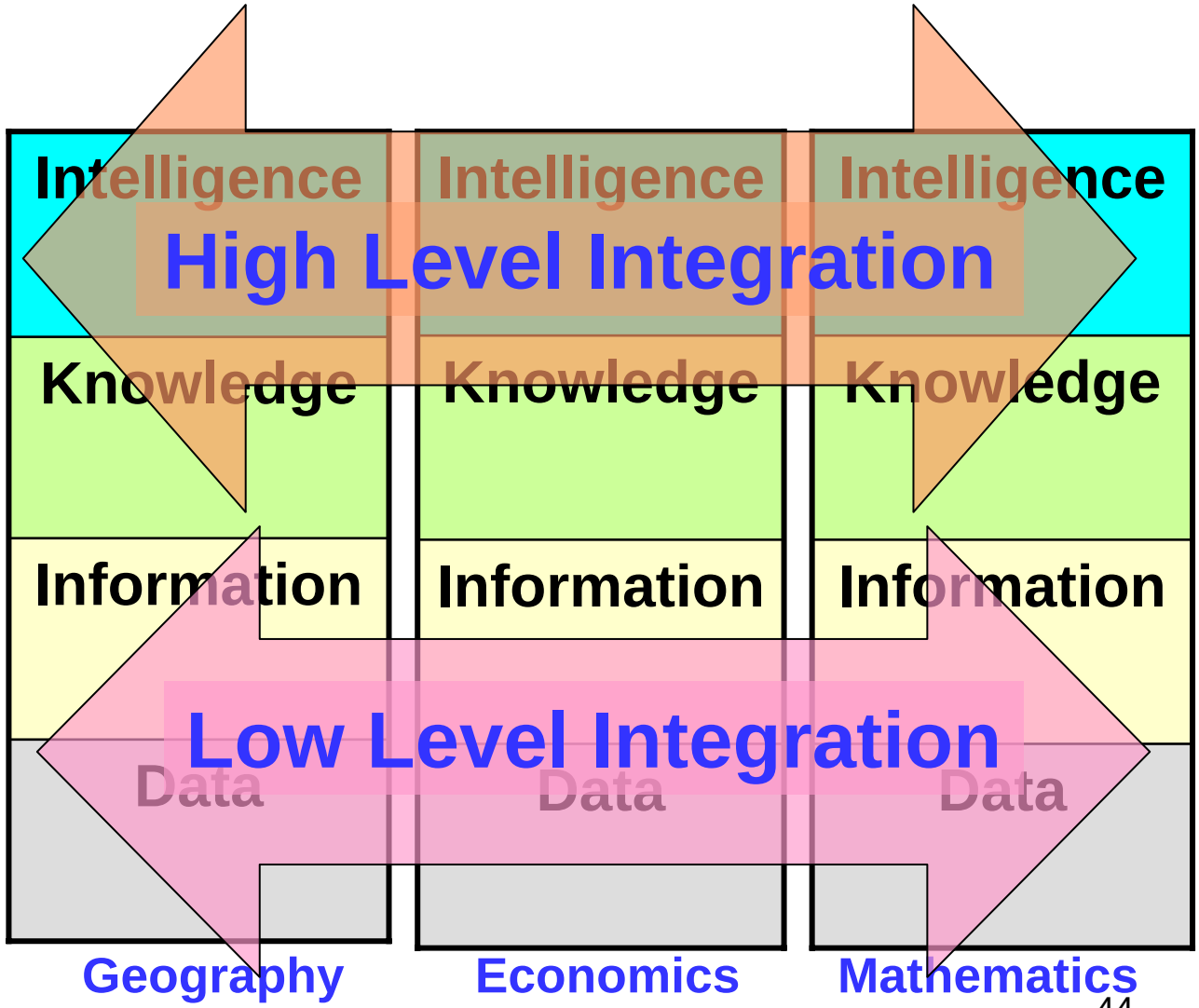
- Lack of opportunity to benefit from knowledge transfer from one subject to other



High Level vs Low Level

Horizontal Subject Integration

- Meta-understanding
- Conceptualizing
- Synthesizing
- Analyzing
- Describing
- Classifying
- Measuring
- Observing



Theory of Integrated Learning

- **Principle 3:**

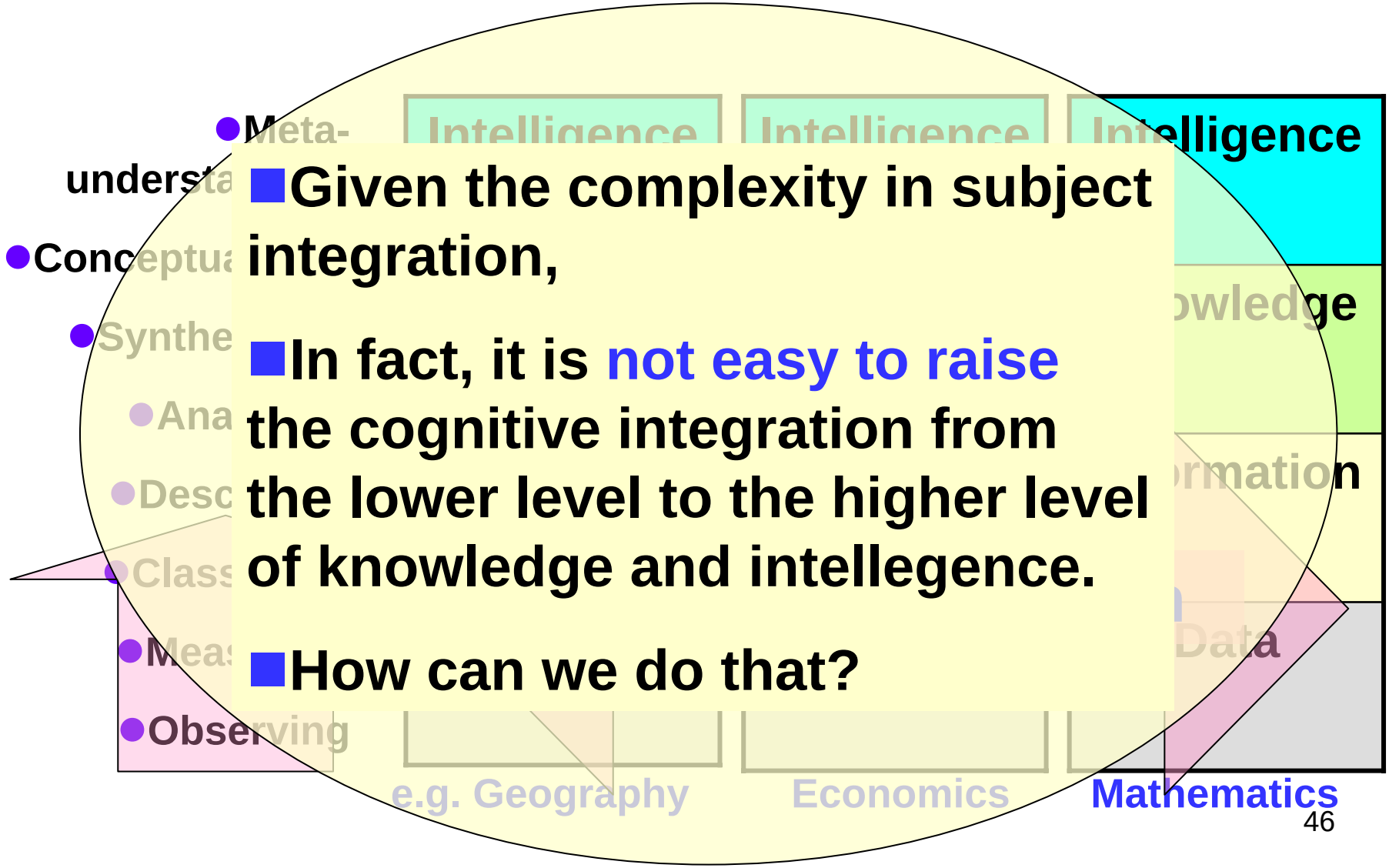
Given the complexity & difficulty in subject integration & the limited time & ability,

→There is a tendency that both students and teachers adopt **low level of cognitive integration** involving mainly data & information

→Result in low level learning and thinking

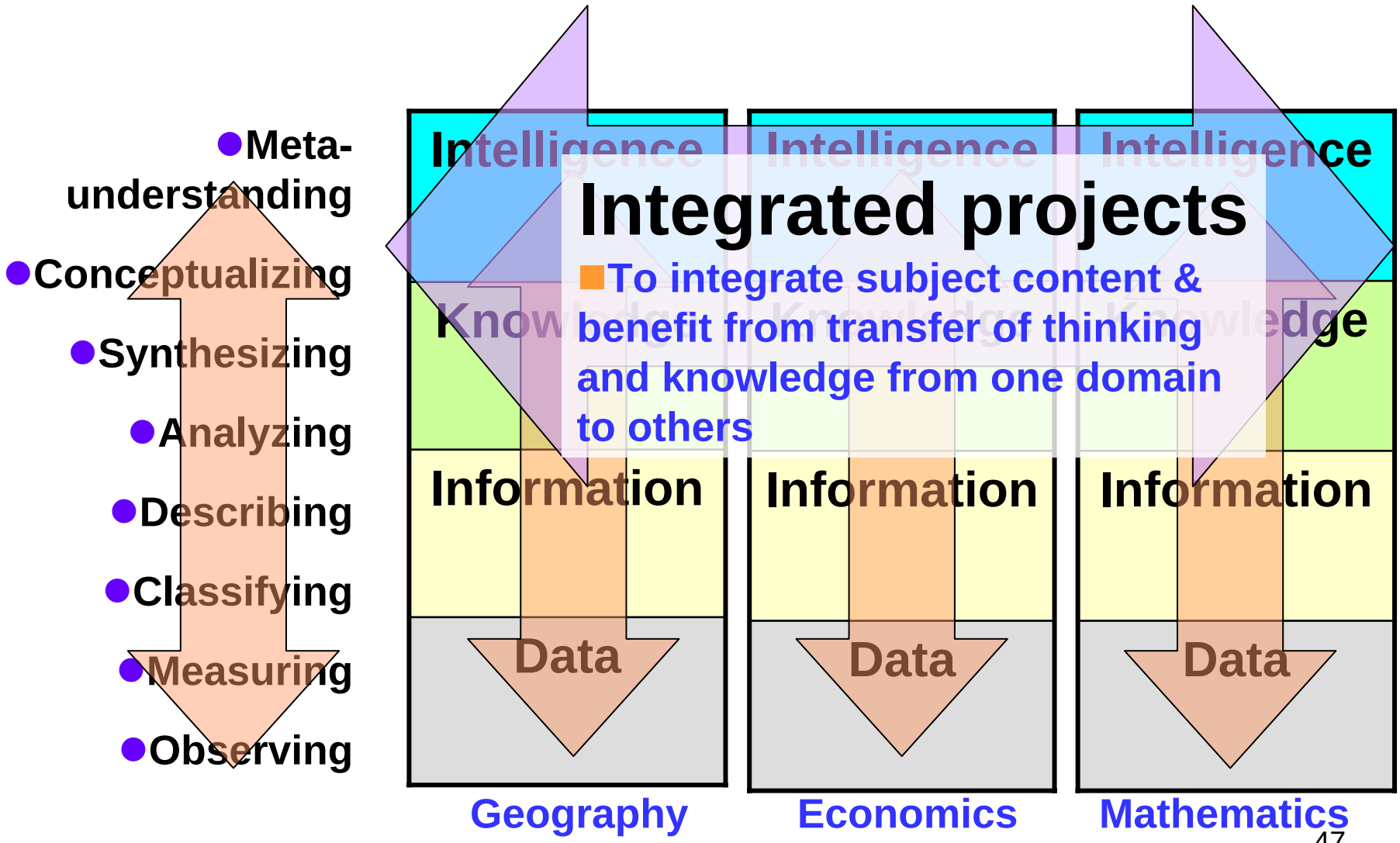
→**Education Bubbles** in integrated learning

How to raise the cognitive level of Horizontal Subject Integration ?



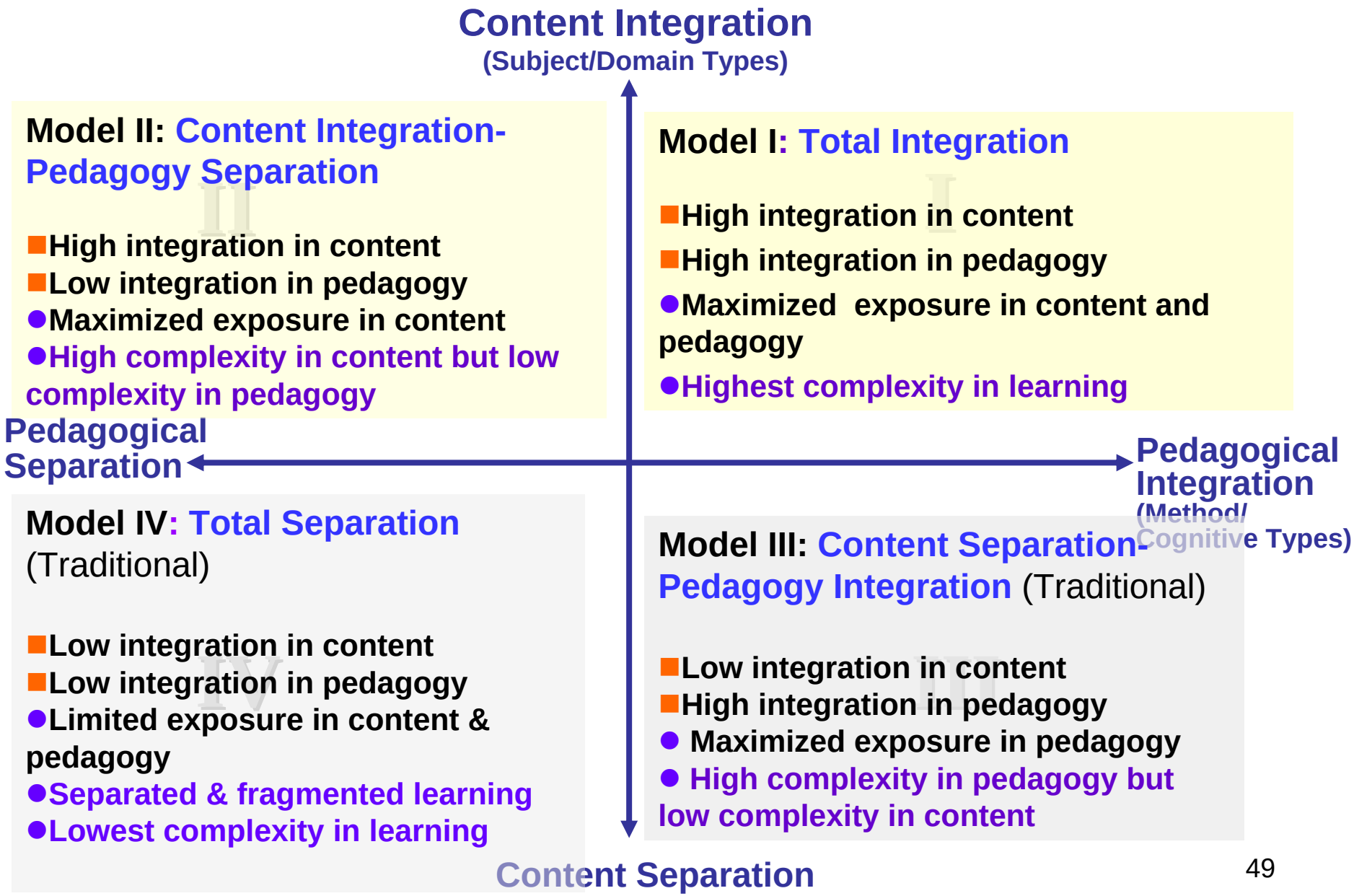
- Given the complexity in subject integration,
- In fact, it is not easy to raise the cognitive integration from the lower level to the higher level of knowledge and intellegence.
- How can we do that?

How to maximize both Vertical Cognitive Integration & Horizontal Subject Integration ?

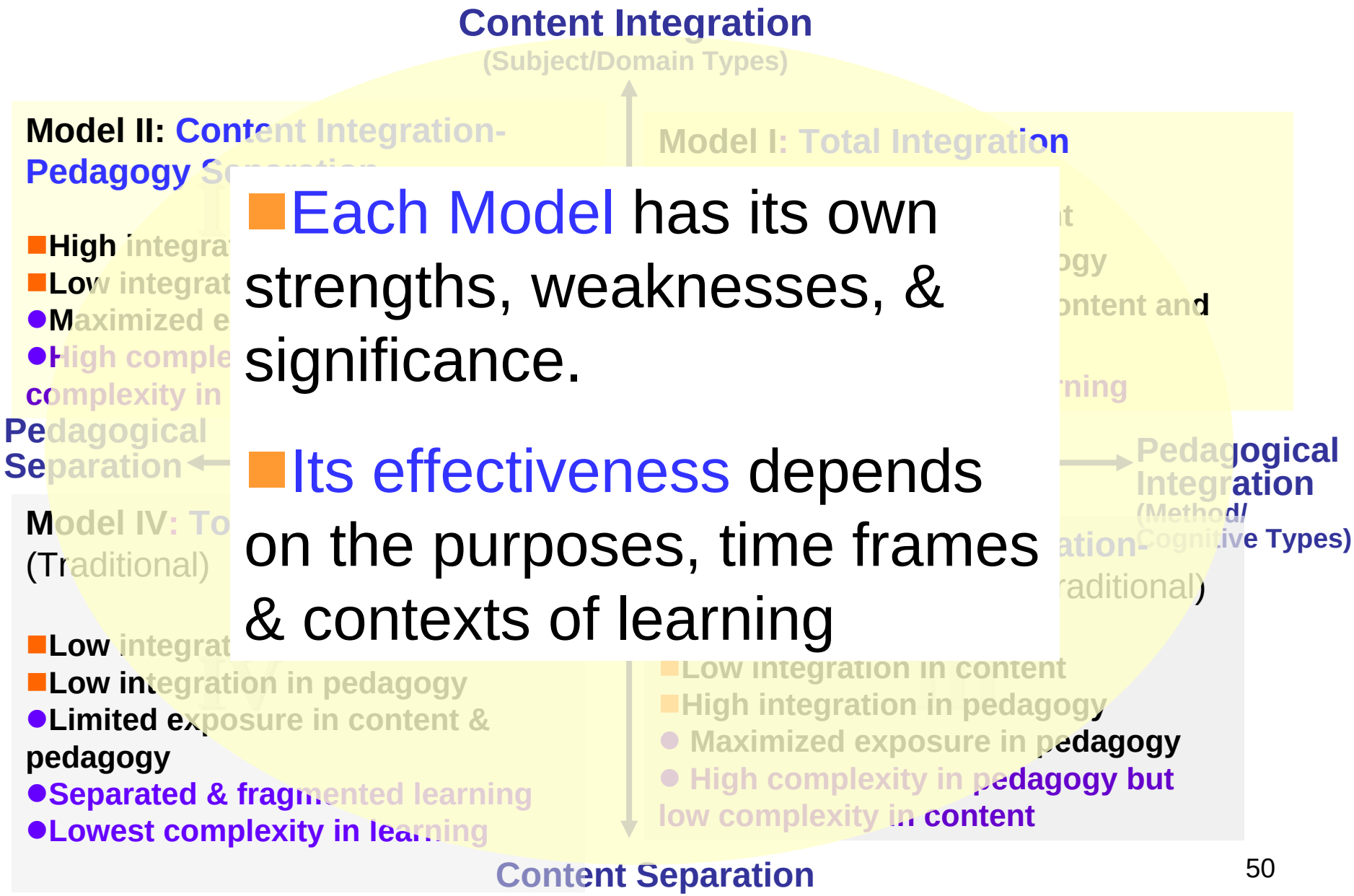


- **What implications for development of integrated learning in local & international communities?**

4 Models of Integration in Learning

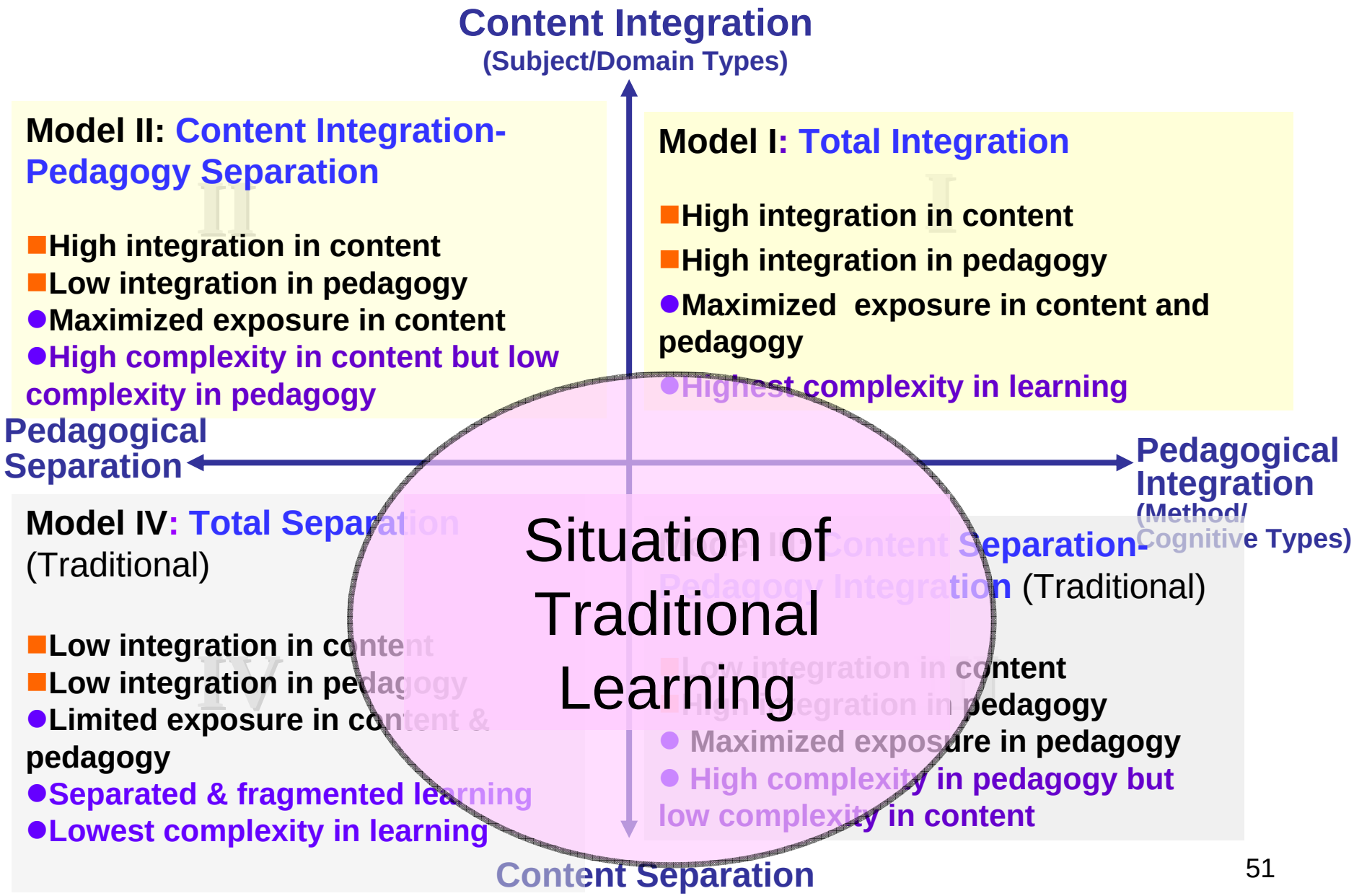


4 Models of Integration in Learning



- Each Model has its own strengths, weaknesses, & significance.
- Its effectiveness depends on the purposes, time frames & contexts of learning

4 Models of Integration in Learning



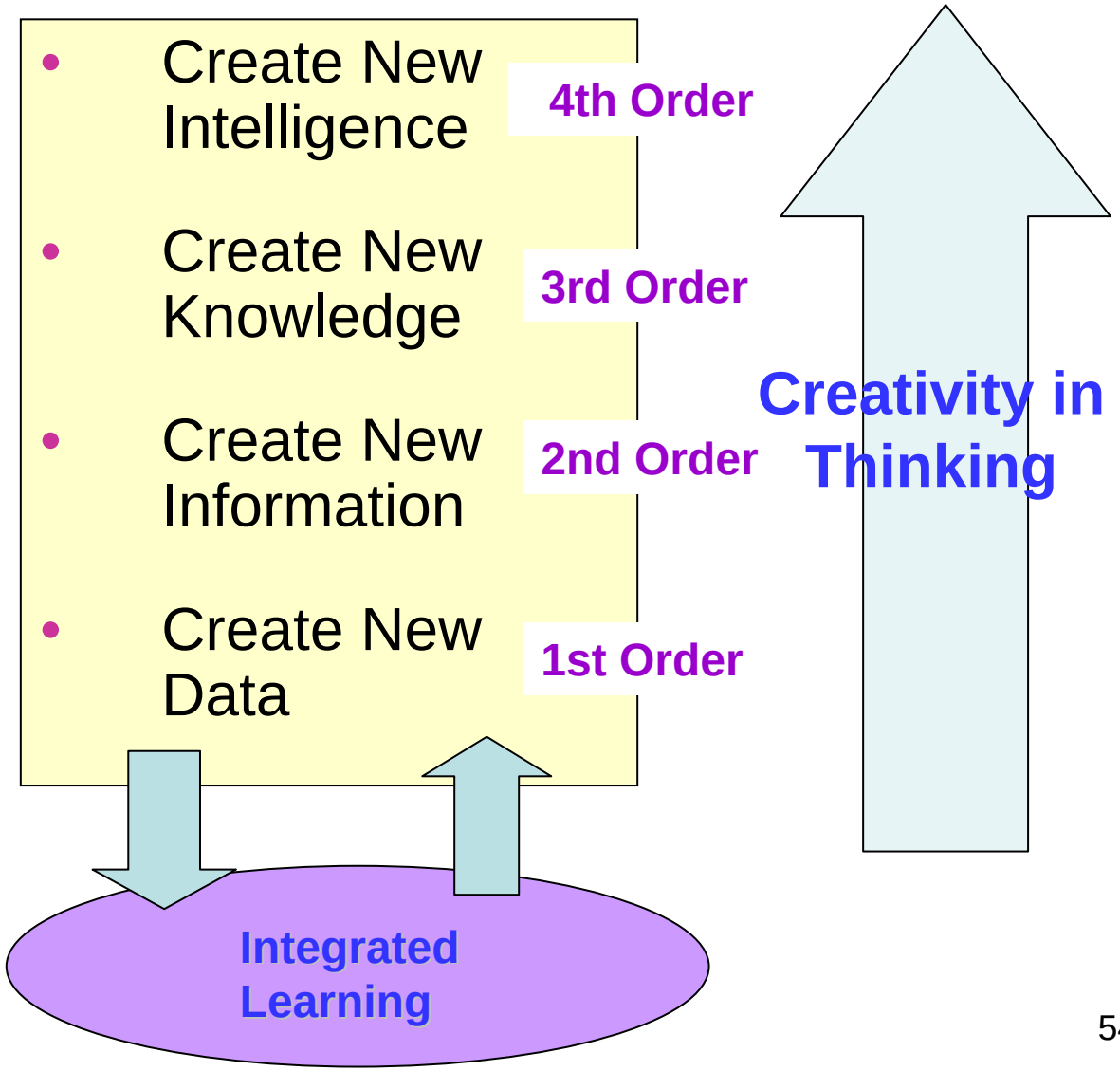
- What implications for understanding the relationship between Integrated Learning and Development of Creativity?

Creativity

in Integrated Learning

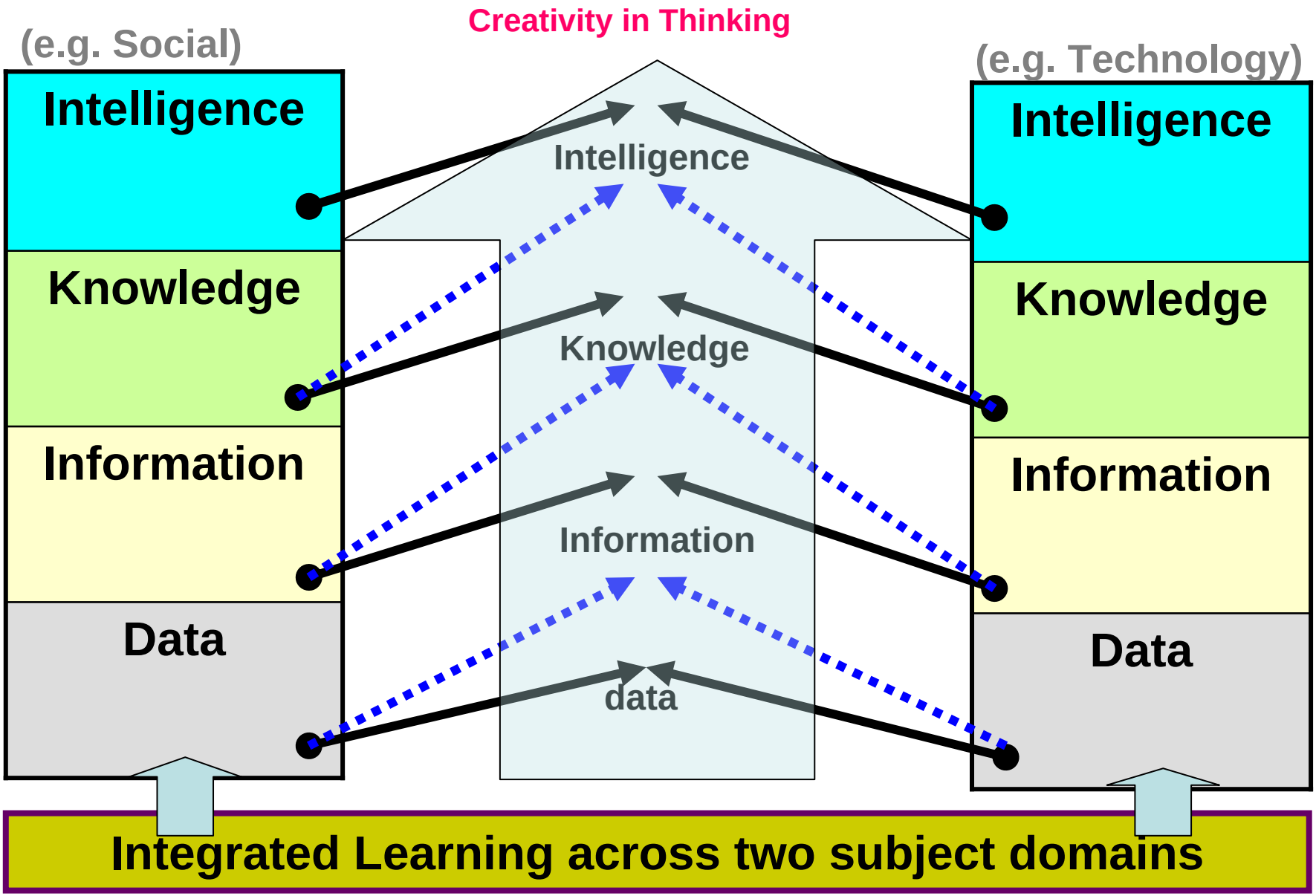
- as ability to create new data, new information, new knowledge or/and new intelligence in integrated learning

Hierarchy of Creativity
in Integrated Learning



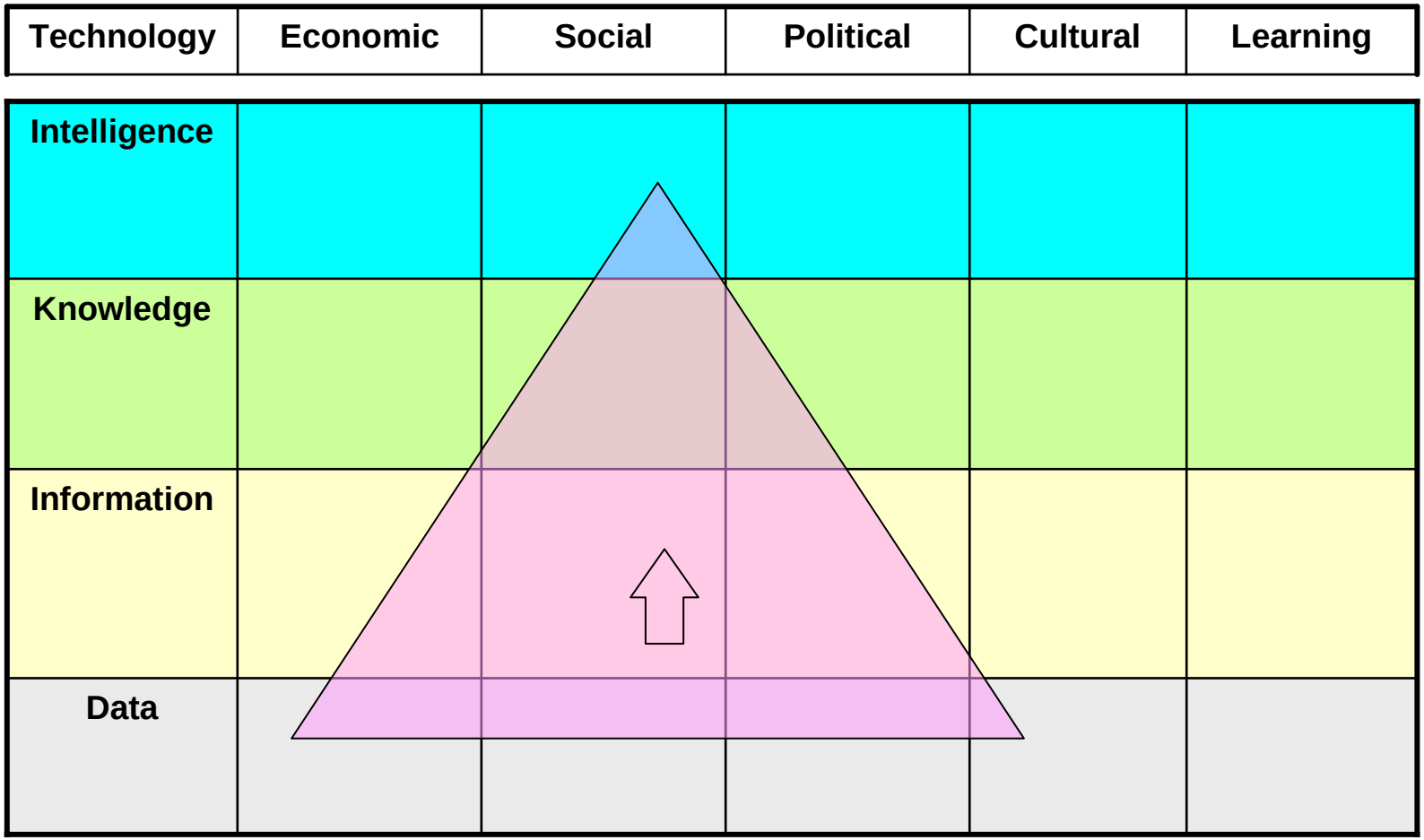
- *Ways* to enhancing creativity in integrated learning?

1. Creativity in Integrated Subject Learning



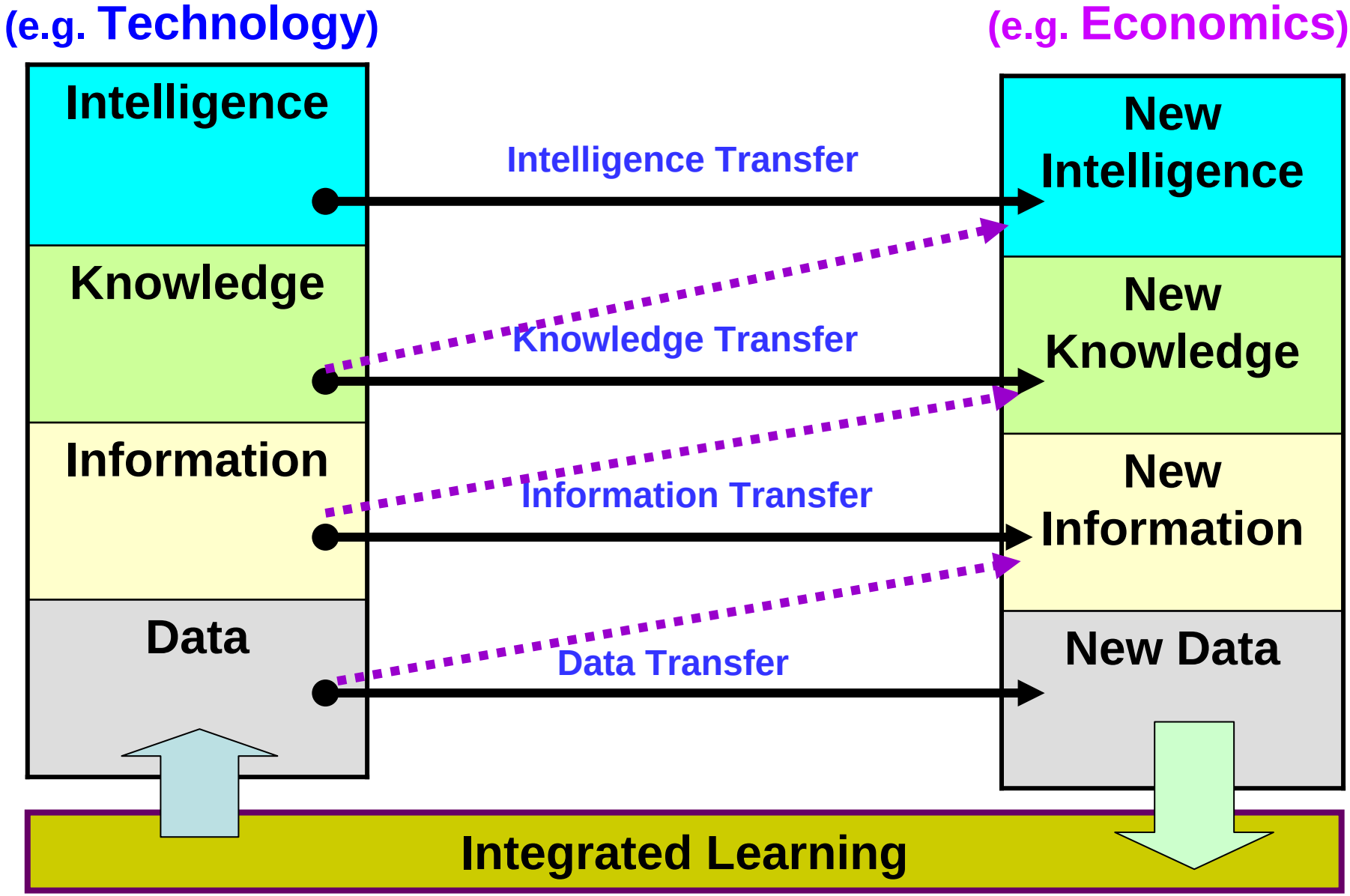
2. Creativity in Integrated Project Learning

(e.g. aims at development of social thinking and intelligence)



Integrated Learning across 4 Subject domains

3. Creativity by Transfer in Integrated Learning



•遷想妙得

- 張彥遠
- 饒宗頤

Thinking Transfer Results in Creative Achievements

Research Implications

1. **Theory of Integrated Learning** provides a new direction for research on initiatives in curriculum, pedagogical methods, and T&L environment that can facilitate development of multiple thinking and creativity

2. **Comprehensive research** is needed to ensure the ongoing and future initiatives sustainable, relevant and effective to new learning and new teaching

3. **Research on paradigm shift** in management, teaching, and learning in schools is still one of top priorities if new learning is to achieve.

- **I hope, our new initiatives** can really facilitate schools and their students successfully in sustainable, integrated & creative learning.

- **All our students** can become high-order active learners to pursue life-long developments in future

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