Environmental Education
Its Evolution, ESD, Participation and Governance

Masahisa SATO

m-sato@tcu.ac.jp
Tokyo City University

Labor Issues of Youth

Climate Change

Global Financial & Economical Crisis

Quality Education

Governance
Poverty
Gap

Aging

Energy Issues

Social Justice

Conflict

Obesity

Natural Disaster

Deprived of Work by AI

Food & Water Issues (quality, quantity, distribution, access)

Loss of Biodiversity

Coming Age

"Great Acceleration"

"Globalization without Externalities"

"Planet Age"

"Age of Hybrid Culture"

"VUCA"
(Volatility, Uncertainty, Complexity, Ambiguity)

MDGs & SDGs

-Different Social Contexts and Preconditions-

Poverty & Social Exclusion

MDGs（2001-2015）
Dev.Agenga

Human Rights, Social Justice, Development

2000s

Poverty, Hunger, HIV/AIDS, South-North Problems, Debt crisis, Conflict, Sanitation, Access and Quality of Water, Illiteracy, Educational Access and Gender Parity, Social Justice

Poverty & Social Exclusion / Environmental Problems

SDGs（2016-2030）
Development・Env.Agenda

MDGs + Planetary boundaries, Environmental Conservation, Rights for Living Things,

Nowadays

Climate Change, Loss Biodiversity, Natural Disaster, Aging, Energy Issues, Social Justice, Governance, Obesity, Conflict, Disparity, Quality of Education, youth employment Issues

**The World We Want
(Sustainable Development)**

2000s

Poverty, Hunger, HIV/AIDS, South-North Problems, Debt crisis, Conflict, Sanitation, Access and Quality of Water, Illiteracy, Educational Access and Gender Parity, Social Justice

**The World We Want X Risk Society
(Sustainable Development
X Resilient Society)**

Nowadays

Climate Change, Loss Biodiversity, Natural Disaster, Aging, Energy Issues, Social Justice, Governance, Obesity, Conflict, Disparity, Quality of Education, youth employment Issues

**Continuous Improvement
in the Same Society**
（e.g. MDGs）

**Transformation
to the Different Society**
（e.g. Paris Agreement／SDGs）

**Human Development／
Sustainable Development**（after 1990s）
▲
Economical / Social Development
（1940s→1980s）

Sustainable Development
（after 1990s）

※パリ協定：2015年12月、産業革命前からの世界の平均気温上昇を2度未満の抑える、さらに1.5度未満を目指す。

SDGs

SUSTAINABLE DEVELOPMENT GOALS
世界を変えるための17の目標

©国連広報局

(1) Planetary Boundaries
(2) No one left behind
→Social Inclusion
(3) Integrated Goals
with Environment, Society and Economy
→Energy Issues, Disaster Risk Reduction
(4) Universality
→e.g. Sustainable Production and Consumption, Lifestyle and Education

(5) Follow-up and review over 15 years

Environmental Education
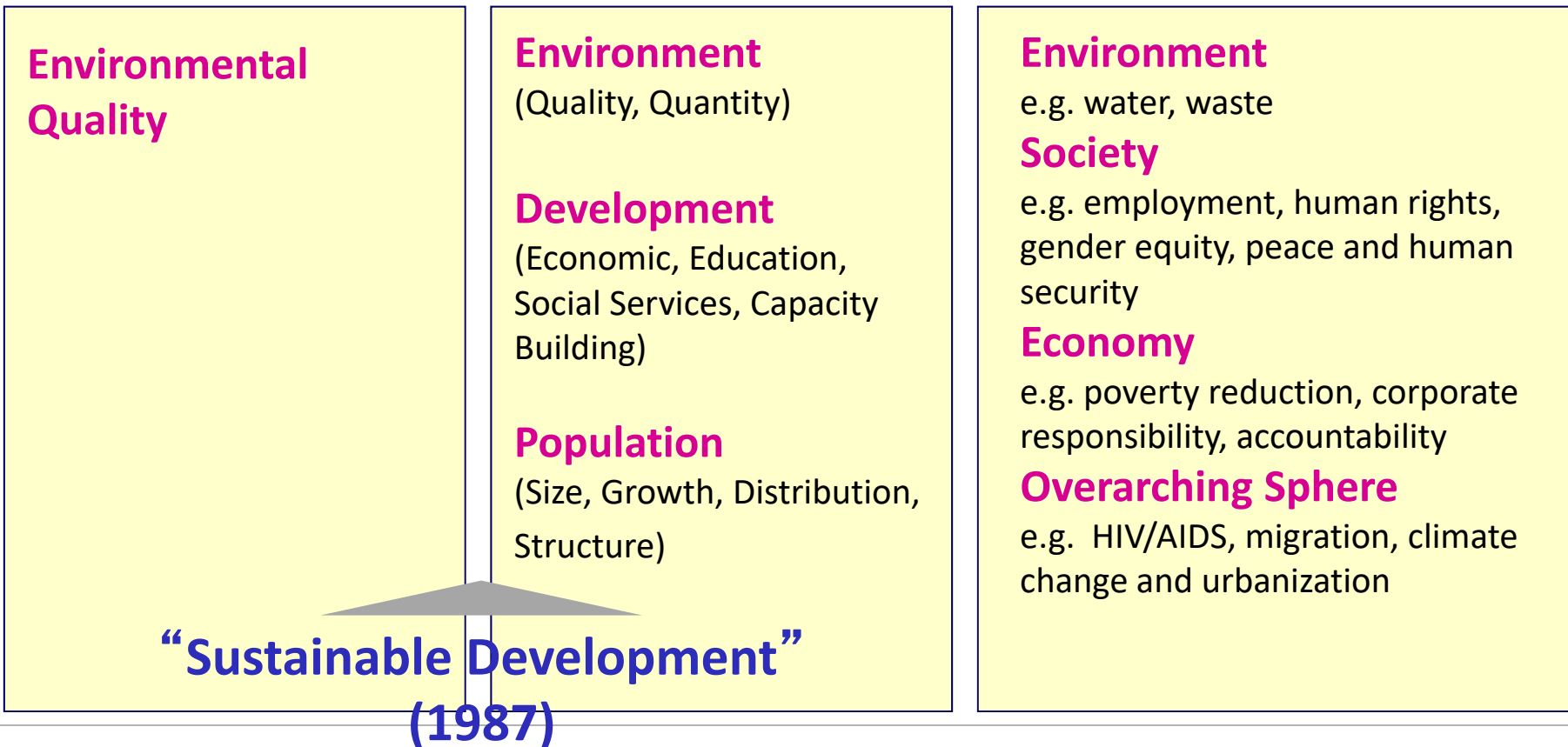# In an age of Globalization
- the Evolution Process -

EE (1970/2-)

EPD (1992-)

EfS, ESD (1997-)

Source: M.Sato (2006)

Environmental Quality

Environment
(Quality, Quantity)

Development
(Economic, Education, Social Services, Capacity Building)

Population
(Size, Growth, Distribution, Structure)

Environment
e.g. water, waste
Society
e.g. employment, human rights, gender equity, peace and human security
Economy
e.g. poverty reduction, corporate responsibility, accountability
Overarching Sphere
e.g. HIV/AIDS, migration, climate change and urbanization

"Sustainable Development" (1987)

Nature / People

People-People / Nature

⇒Perception of "Environmental Issues"
From Object to Object/Subject

Environmental Destruction
"Environmental" as Object
⇒Scientific Views

"Social Ecology" proposed by Marray Bookchin (1990)

【People】

【People】

【People】

Importance of Social Relations of Peoples (Participation, Dialogue, Collective Decisions, Communications)

Environmental Destruction
⇒As a result of "Structural Violence" in Human Society
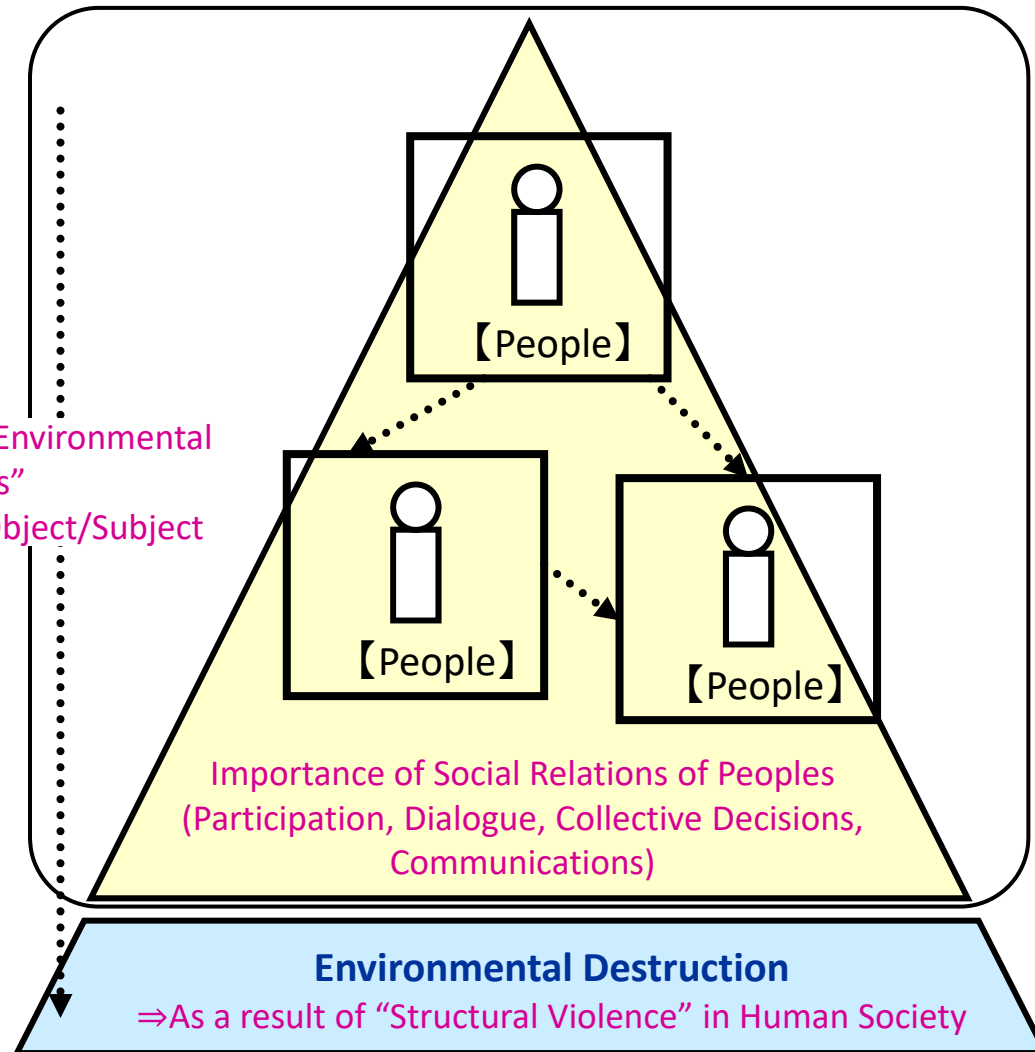
The THESSALONIKI DECLARATION (1997)

*"11. Environmental education, as developed within the framework of the Tbilisi recommendations and as it has evolved since then, addressing the entire range of global issues included in Agenda 21 and the major UN Conferences, has also been dealt with as education for sustainability. **This allows that it may also be referred to as education for environment and sustainability**."*

**Reference: UNESCO 1997, ENVIRONMENT AND SOCIETY: Education and
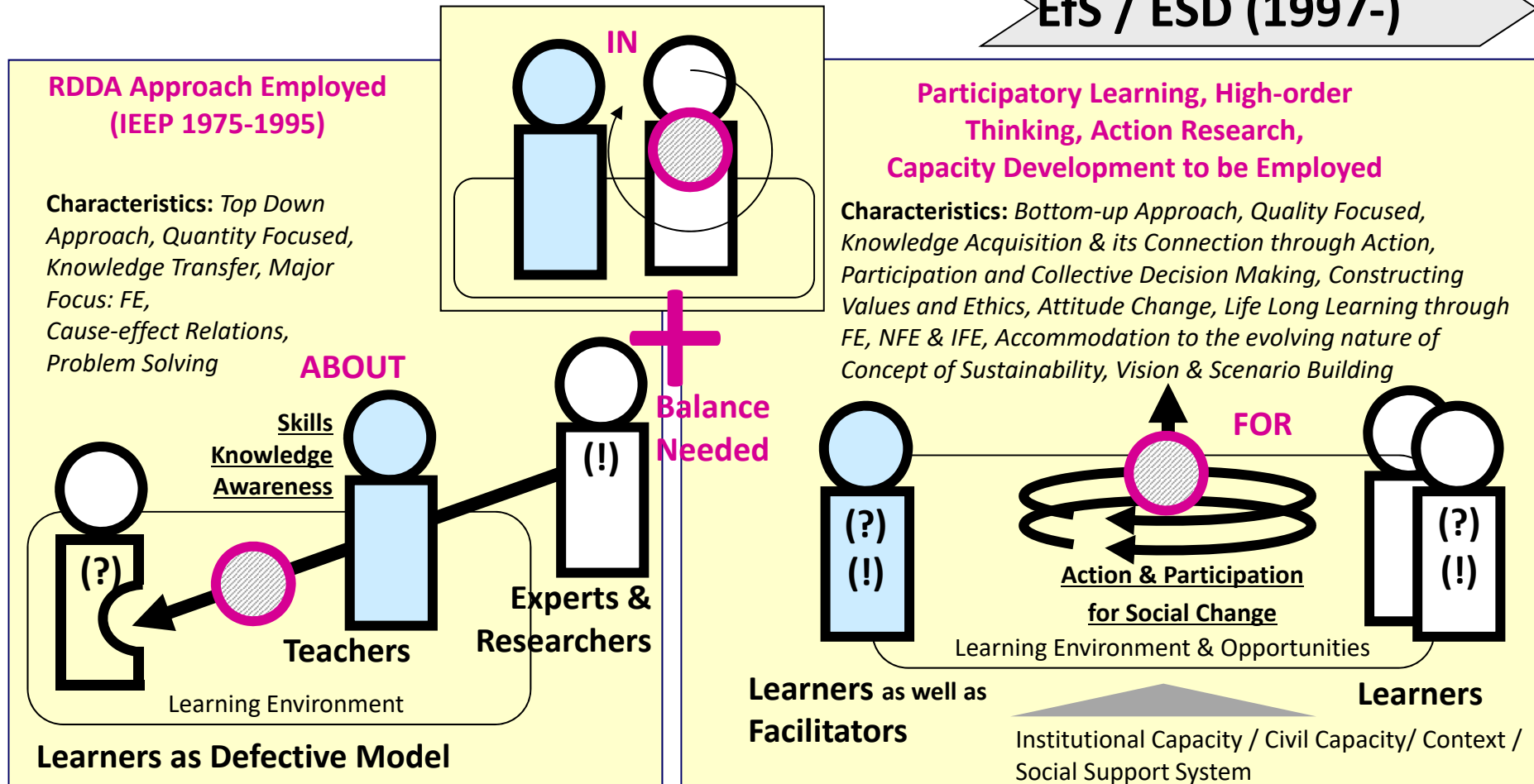Public Awareness for Sustainability
The THESSALONIKI DECLARATION**

EE (1970/2-)

EPD (1992-)

EfS / ESD (1997-)

Source: M.Sato (2006)

IN

RDDA Approach Employed (IEEP 1975-1995)

Characteristics: *Top Down Approach, Quantity Focused, Knowledge Transfer, Major Focus: FE, Cause-effect Relations, Problem Solving*

ABOUT

Skills Knowledge Awareness

(?)

Teachers

(!)

Experts & Researchers

+ Balance Needed

Learning Environment

Learners as Defective Model

Participatory Learning, High-order Thinking, Action Research, Capacity Development to be Employed

Characteristics: *Bottom-up Approach, Quality Focused, Knowledge Acquisition & its Connection through Action, Participation and Collective Decision Making, Constructing Values and Ethics, Attitude Change, Life Long Learning through FE, NFE & IFE, Accommodation to the evolving nature of Concept of Sustainability, Vision & Scenario Building*

FOR

(?) (!)

Action & Participation for Social Change

Learning Environment & Opportunities

(?) (!)

Learners as well as **Facilitators**

Learners

Institutional Capacity / Civil Capacity/ Context / Social Support System

13

Joy Palmer, Philip Neal (1996)
The Handbook of Environmental Education, Routledge, New York

Education IN/THROUGH the Environment

Education ABOUT the Environment

Education FOR the Environment

Experience

Action

Concern

Concepts
Skills
Attitudes
Knowledge &
Understanding

-1970s-

Education
ABOUT
the Environment
(knowledge, skills)

-1980s-

Education
IN
the Environment
(experience)

-1990s-

Education
FOR
the Environment
(action)

-2000s-

SUSTAINABILITY
Participation
(decision making, democracy, ownership, dialogue, wholistic understanding)

Action Oriented Approaches
(Negotiation, Persuade, Lifestyle choice, Political commitment, Environmental Mgt)

Linkages among (1) educational aspects; (2) social aspects; and (3) political aspects.

Tilbury, D., Coleman, V. and Garlick、D. 2005. *A National Review of Environmental Education and its Contribution to Sustainability in Australia: School Education*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability (ARIES).

UNESCO Global Action Programme on
Education for Sustainable Development

DESD/GAP Lessons Learnt & Points to be Considered for Further Implementation

ESD：2 Origins；SD & Human Development Approach

"Human Development Approach", Quality Basic Education, Universalization of Access and Promoting Equity

(1948: The Declaration of Human Rights, 1989: Convention on Right of the Child - CRC, 1990: WCEFA and Jomtien Declaration on Education for All – EFA, 2000: WEF and Dakar Framework of Action, 2000-2015: MDG 2-3, 2003-2012: UNLD)

Economical Development
.
Social Development

| UNCED (1992) | → | DESD (2005-2014) |

ESD

| ESD for 2030 (2020-2030) |
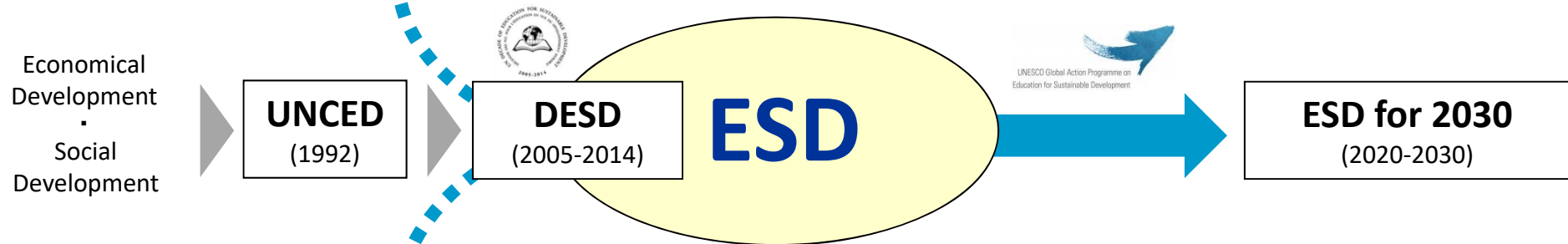
"Sustainable Development" & Education

(1972: UN Conference on Human Environment in Stockholm, 1977: Tbilisi, 1987: Moscow, Brundtland Report – Our common future, 1992: Rio Summit – Agenda 21 Chap 36, 1994: World Summit for Social Development, 1995: 2nd UN Conference on Human Settlements, 4th World Conference on Women, 1996; World Food Summit, 1997: Thessaloniki Declaration)

ESD : Sustainability Issues & ESD

Culture

Economy

ESD

Society

Environment
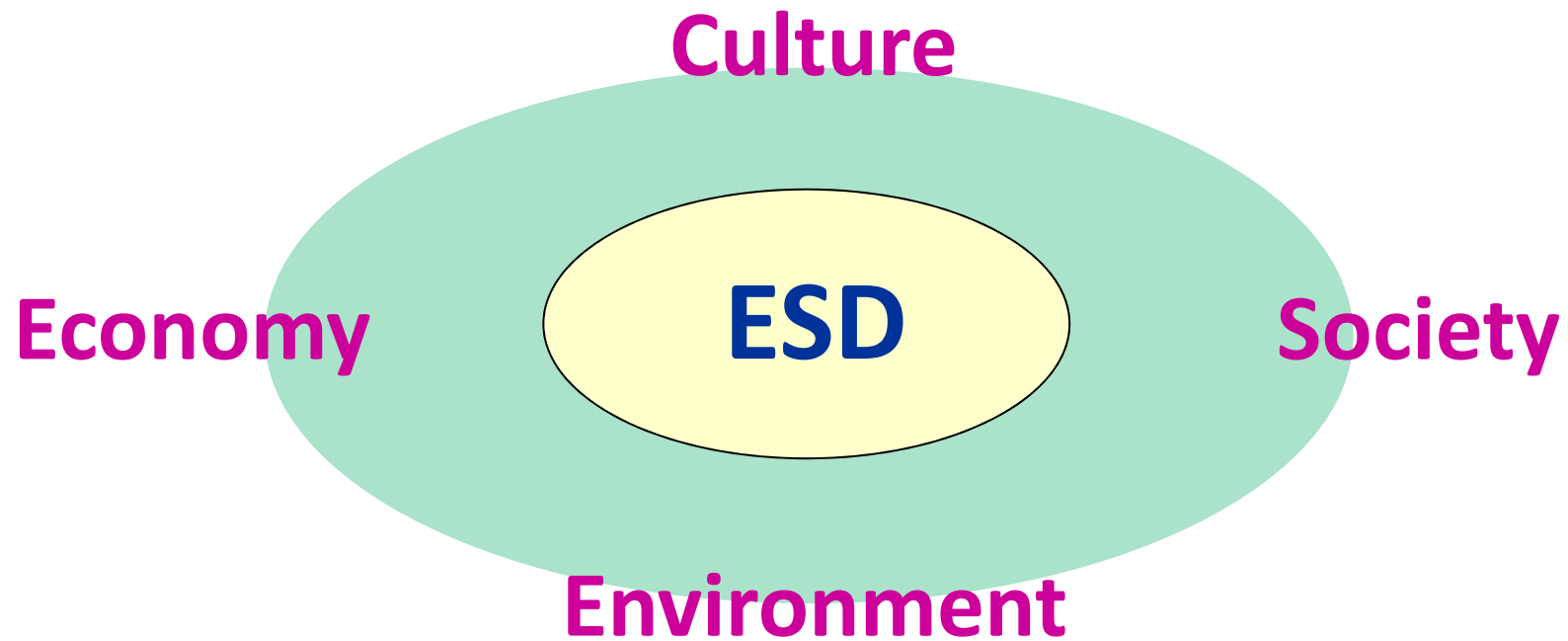
ESD : Different Learning Approaches

IN

Education in Sustainability
(Participation, Collaboration, Dialogue)
Interpretivistic

ABOUT

Education about
Sustainability
(Knowledge Transfer)
Positivistic

ESD

AS

Education as Sustainability
(Self Learning)
Reflective, Intrinsic

FOR

Education for Sustainability
(Attitude and Action)
Critical Theory

ESD : Learning to Transform Oneself and Society

**Transform
Oneself**

ESD
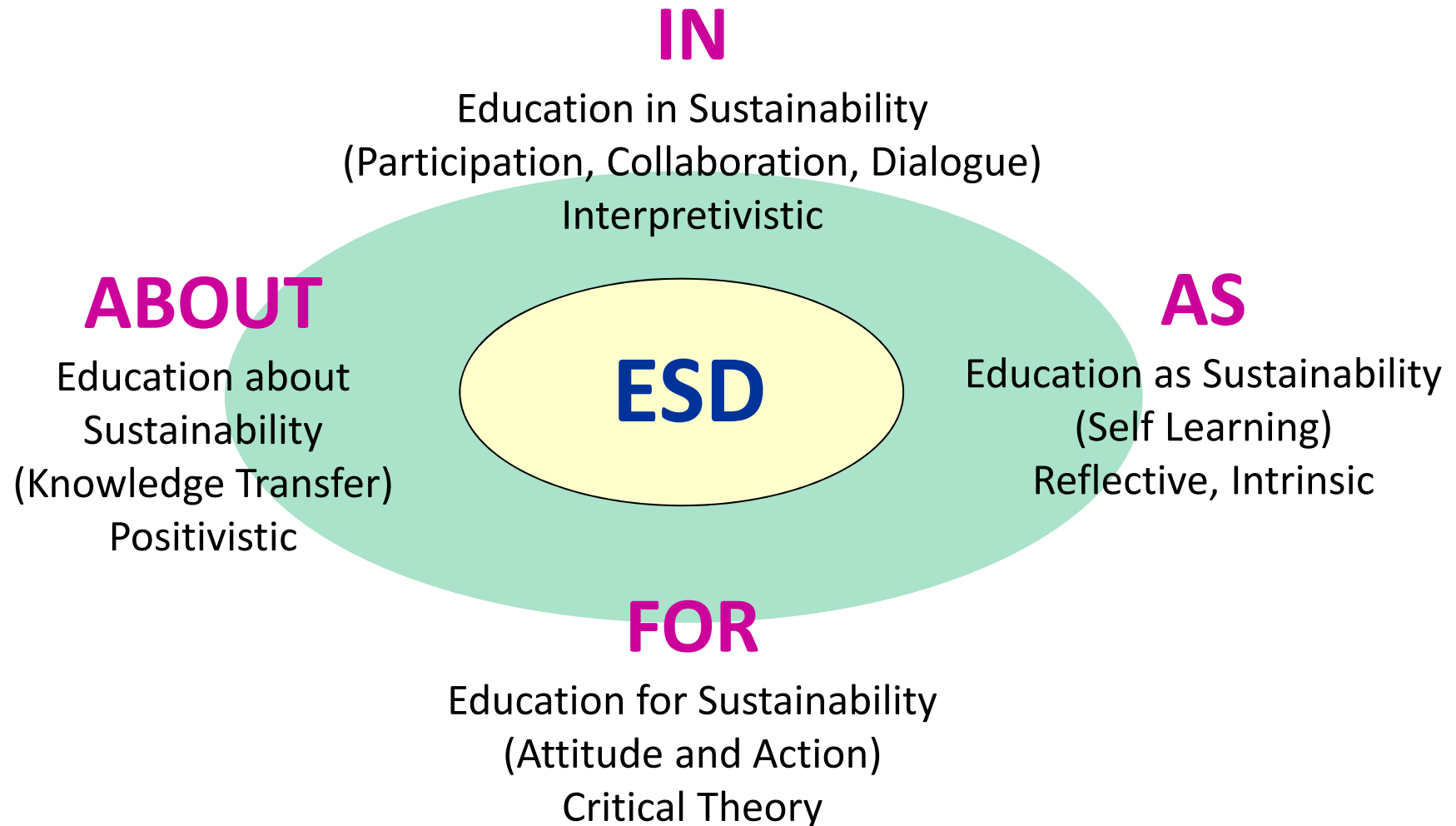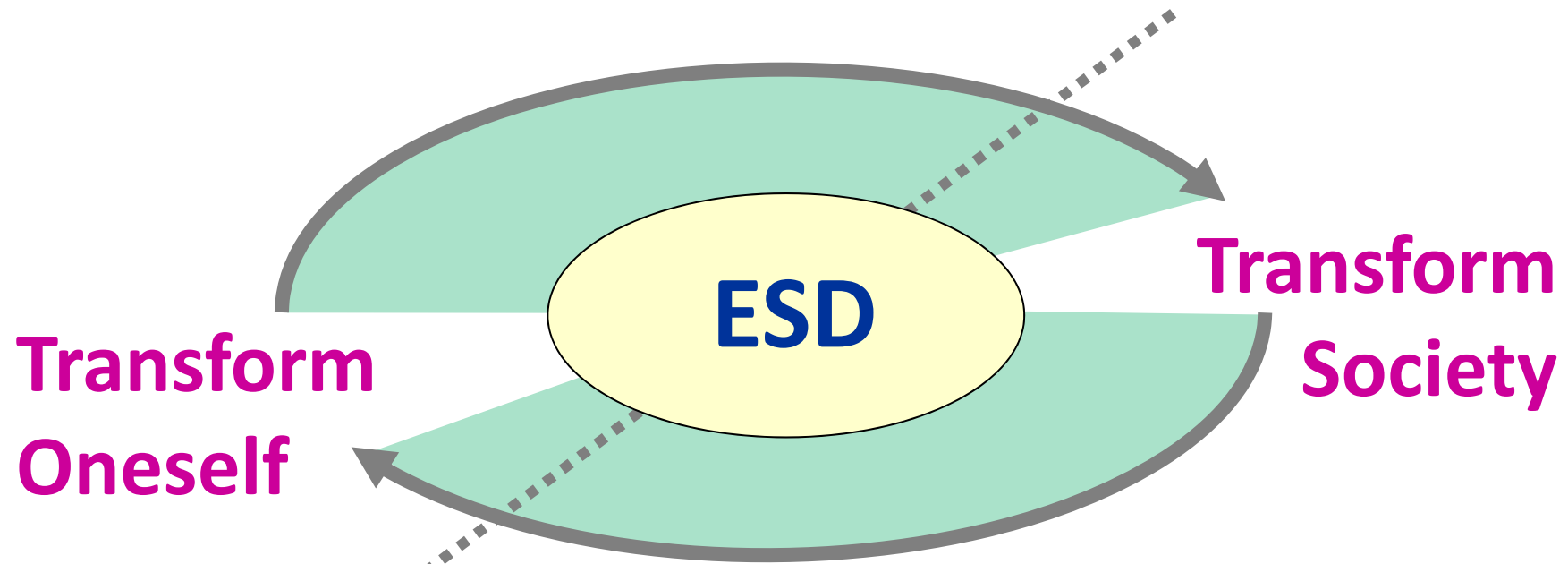
**Transform
Society**

New Pillars of Learning (UNESCO 2009)
"Learning to Transform Oneself and Society"

ESD：Key Competencies in Sustainability

Social Emotional Intelligence

(mindfulness, empathy, compassion, critical inquiry)

Systems Thinking

Anticipatory

Normative

Strategic

ESD

Collaboration

Integrated Problem Solving

Self–Awareness

Critical Thinking
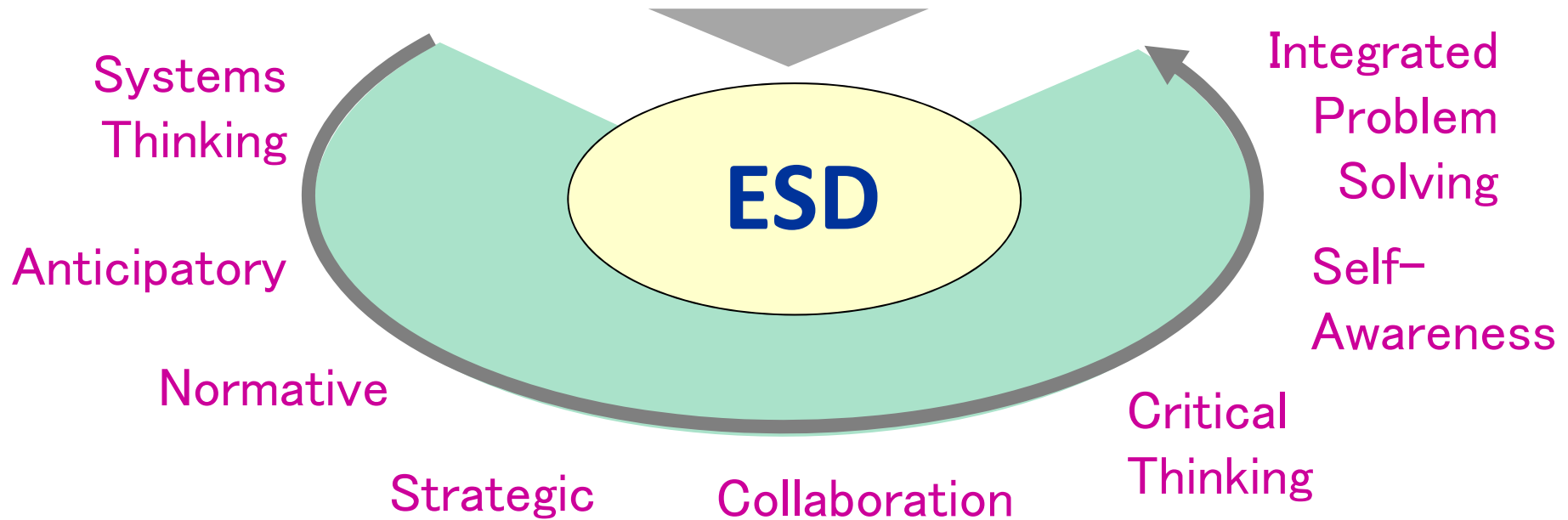
Based on (UNESCO 2017)

[1960s-]　　　[1990s-]　　　[2000s-]

Real World Experiences

Model Observation, Imitation, Behavior Modification

Individual Capacity
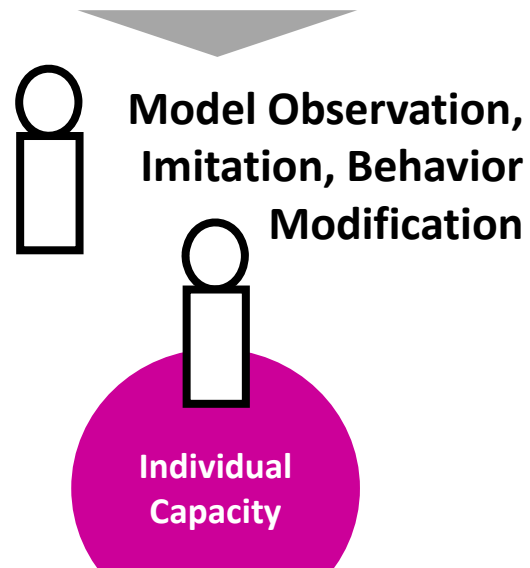
How individuals learn from Society

"Cognitive Process that occurs in social context" Social Learning (1)

Institutional Capacity, Organizational Management
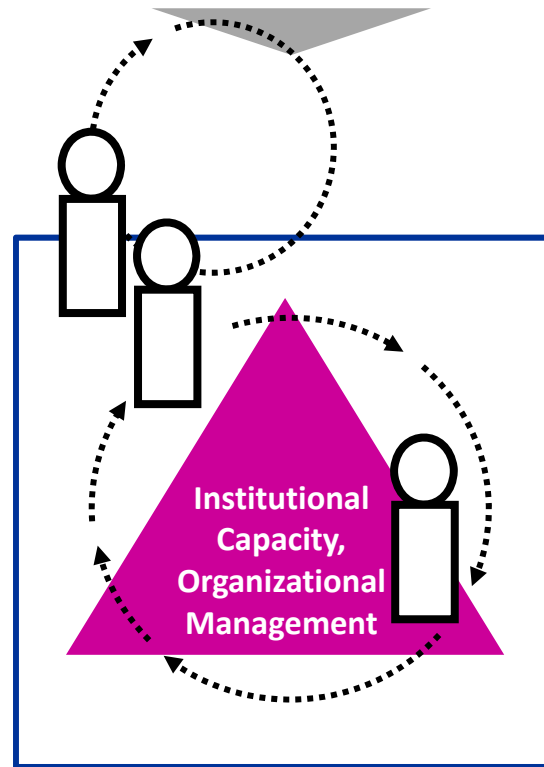
"Organizational Mgt, Organizational Learning" Social Learning (2)

Under the Condition of VUCA

Community of Practice and Learning, Cooperative Inquiry, Communication Action

Social System, Sustain-ability

"Ecologically, Sustainable Collective Learning" Social Learning (3)

［2000s-］

Under the Condition of VUCA

Collaborative Governance

Social System, Sustain-ability
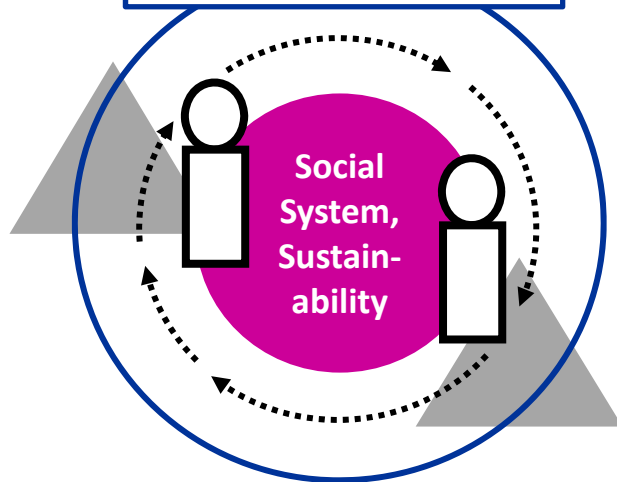
"Ecologically, Sustainable Collective Learning"
Social Learning (3)

"*learning taking place in groups, communities, networks and social systems that operate in new, unexpected, uncertain and unpredictable circumstances; it is directed at the solution of unexpected context problems and it is characterised by an optimal use of the problem solving capacity which is available within this group or community*"

(Wildemeersch 1995 in Wildemeersch 2009:100）
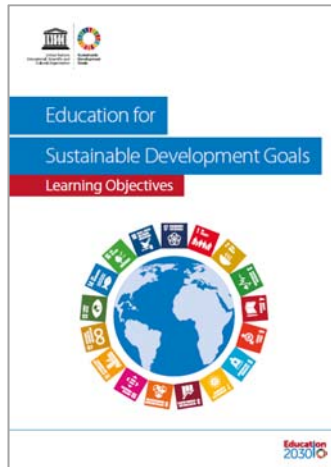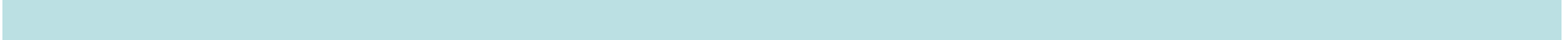
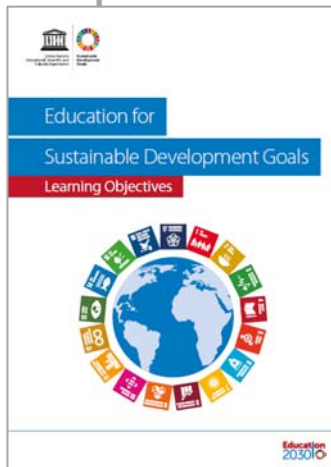# Education for SDGs, Learning Objectives

The following key competencies are generally seen as crucial to advance sustainable development (see de Haan, 2010; Rieckmann, 2012; Wiek et al., 2011).
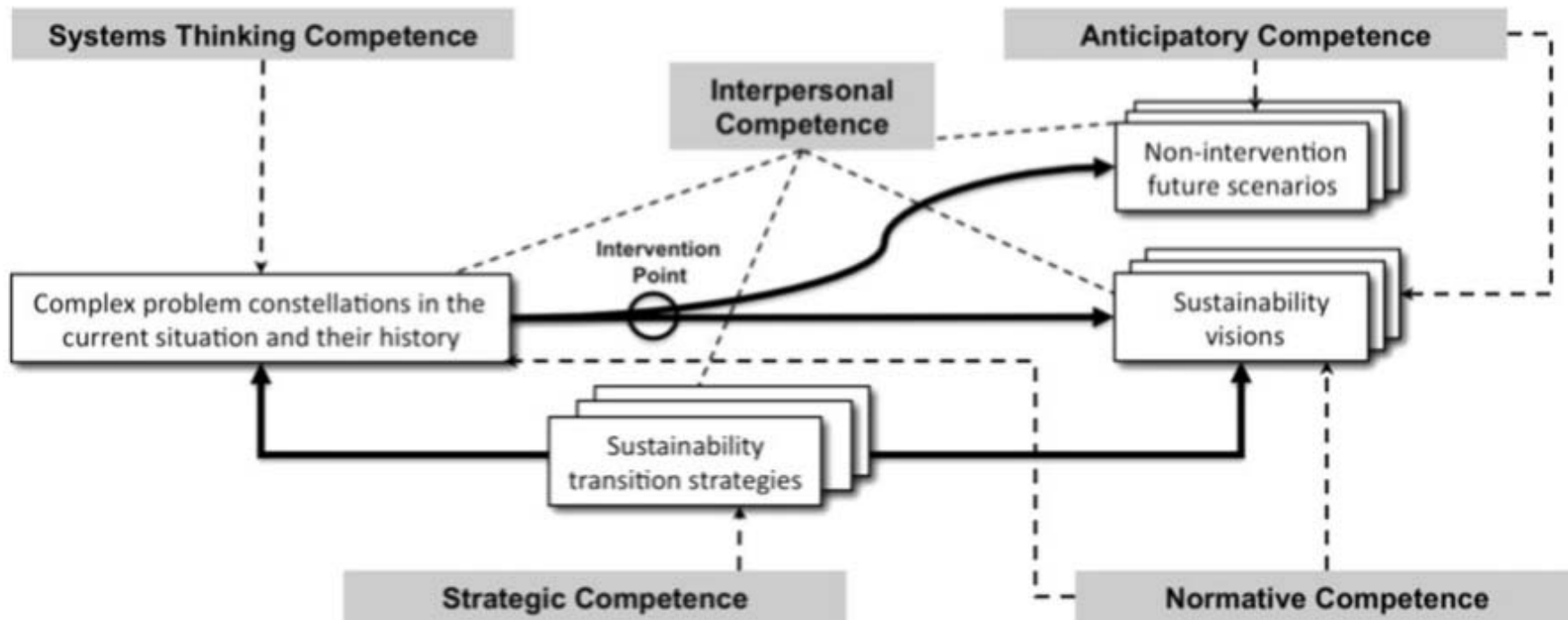
Box 1.1. Key competencies for sustainability

Systems thinking competency: the abilities to recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.

Anticipatory competency: the abilities to understand and evaluate multiple futures – possible, probable and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.

Normative competency: the abilities to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.

Strategic competency: the abilities to collectively develop and implement innovative actions that further sustainability at the local level and further afield.

Collaboration competency: the abilities to learn from others; to understand and respect the needs, perspectives and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.

Critical thinking competency: the ability to question norms, practices and opinions; to reflect on own one's values, perceptions and actions; and to take a position in the sustainability discourse.

Self-awareness competency: the ability to reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.
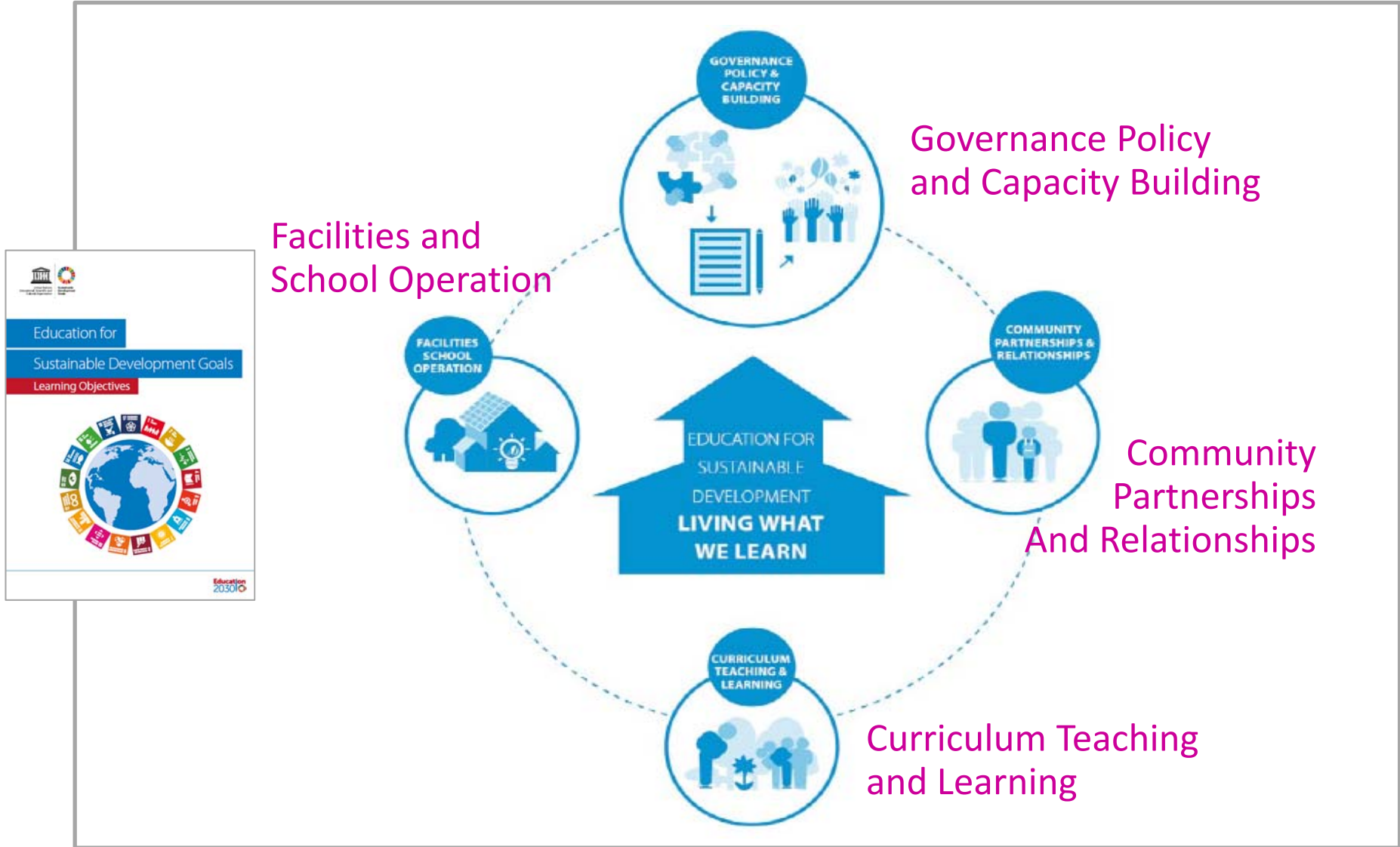
Integrated problem-solving competency: the overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and equitable solution options that promote sustainable development, integrating the above-mentioned competences.

Governance Policy
and Capacity Building

Facilities and
School Operation

Community
Partnerships
And Relationships

Curriculum Teaching
and Learning

Box 2.4.2. Key elements for whole-institution approaches

An institution-wide process that enables all stakeholders – leadership, teachers, learners, administration – to jointly develop a vision and plan to implement ESD in the whole institution.

Technical and financial support to the institution to support its reorientation, including for instance the provision of relevant good practice examples, training for leadership and administration, the development of guidelines and associated research.

Inter-institutional networks that facilitate mutual support such as peer-to-peer learning on a whole-institution approach, and increase the visibility of the approach to promote it as a model for adaptation.

Source: UNESCO (2014b)
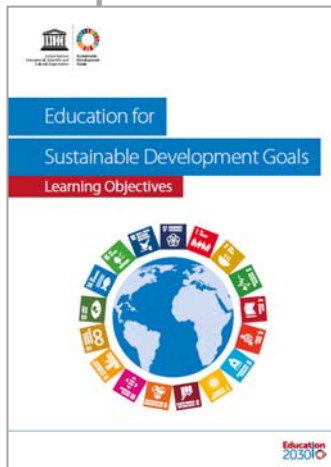
## Box 2.4.3: Key pedagogical approaches in ESD

A learner-centred approach

Learner-centred pedagogy sees students as autonomous learners and emphasizes the active development of knowledge rather than its mere transfer and/or passive learning experiences. The learners' prior knowledge as well as their experiences in the social context are the starting points for stimulating learning processes in which the learners construct their own knowledge base. Learner-centred approaches require learners to reflect on their own knowledge and learning processes in order to manage and monitor them. Educators should stimulate and support those reflections. Learner-centred approaches change the role of an educator to one of being a facilitator of learning processes (instead of being an expert who only transfers structured knowledge) (Barth, 2015).
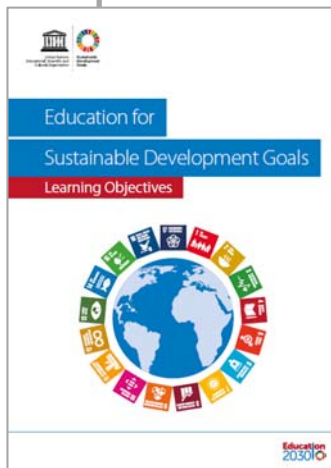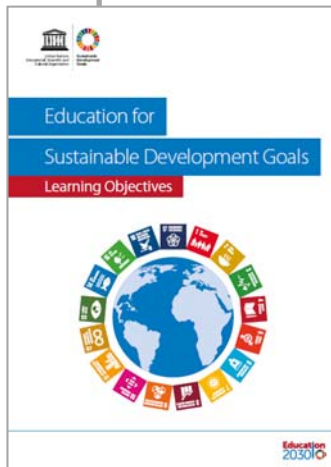
Action-oriented learning

In action-oriented learning, learners engage in action and reflect on their experiences in terms of the intended learning process and personal development. The experience might come from a project (in-service learning), an internship, the facilitation of a workshop, the implementation of a campaign, etc. Action-learning refers to Kolb's theory of the experiential learning cycle with the following stages: 1. Having a concrete experience, 2. Observing and reflecting, 3. Forming abstract concepts for generalization and 4. Applying them in new situations (Kolb, 1984). Action-learning increases knowledge acquisition, competency development and values clarification by linking abstract concepts to personal experience and the learner's life. The role of the educator is to create a learning environment that prompts learners' experiences and reflexive thought processes.
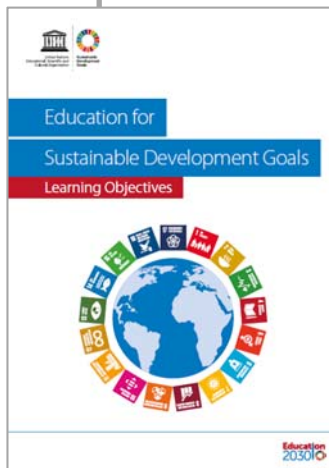
Transformative learning

Transformative learning can best be defined by its aims and principles, rather than by any concrete teaching or learning strategy. It aims at empowering learners to question and change the ways they see and think about the world in order to deepen their understanding of it (Slavich and Zimbardo, 2012; Mezirow, 2000). The educator is a facilitator who empowers and challenges learners to alter their worldviews. The related concept of transgressive learning (Lotz-Sisitka et al., 2015) goes one step further: It underlines that learning in ESD has to overcome the status quo and prepare the learner for disruptive thinking and the co-creation of new knowledge.

Social Ecosystem
&
Combined Capabilities

System Approaches to "Global Problematique"
>Partnership / Collaboration is precondition

Harmful Influence of Job Dilution, Silozation and Specialization
>Use System Thinking (include, causal loops, time series, different mental model)
>dynamic, inclusive, collective partnership
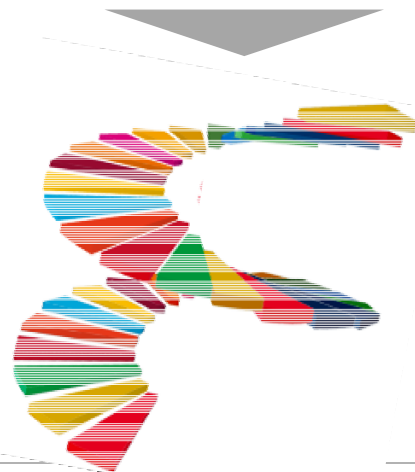
➢ **Develop Structure for avoiding problems**
➢ **Develop Responsible Structure if problem occurs**

表1-1　社会生態モデル（Social Ecological Model）

1) Individual（個人）	個々人の知識・意識・スキル
2) Interpersonal（個人間）	家族・友人・相談相手の生活習慣・知識・行動
3) Organizational（組織）	会社・学校などの環境・慣習・方針、地域の専門機関の状況
4) Community（コミュニティ）	大学・研究機関、メディア、企業、地域社会などが影響する文化的価値、規範、社会通念
5) Policy（法律・政策）	法律・政策・計画、それらが地域やビジネスに与える影響

※ CDC 資料に基づき著者作成

困難な状況にいる個人を教育、支援をしても、その人が力を発揮し、良い状況をつくるには、多層的な人・組織・制度などが連動している必要がある。

個人の力
Individual
気付き、知識、技能、態度、参加

周りの人の支え
Interpersonal

家族・友人の理解・協力・サポート力

身近な場で相談できる人

組織・専門機関
Organizational

会社・学校などの環境・慣習・方針・取組み

NPO、自治体施設などの相談・対応・情報発信

地域の経済・社会状況・施設・インフラ

コミュニティ
Community

住民の文化・風土・社会通念・ネットワーク

メディアの種類・発信内容・アクセス

大学・教育機関の地域連携

政策
Public Policy

政府・自治体の法律・条令・規制・施策

政治家・官僚の理解・熱意
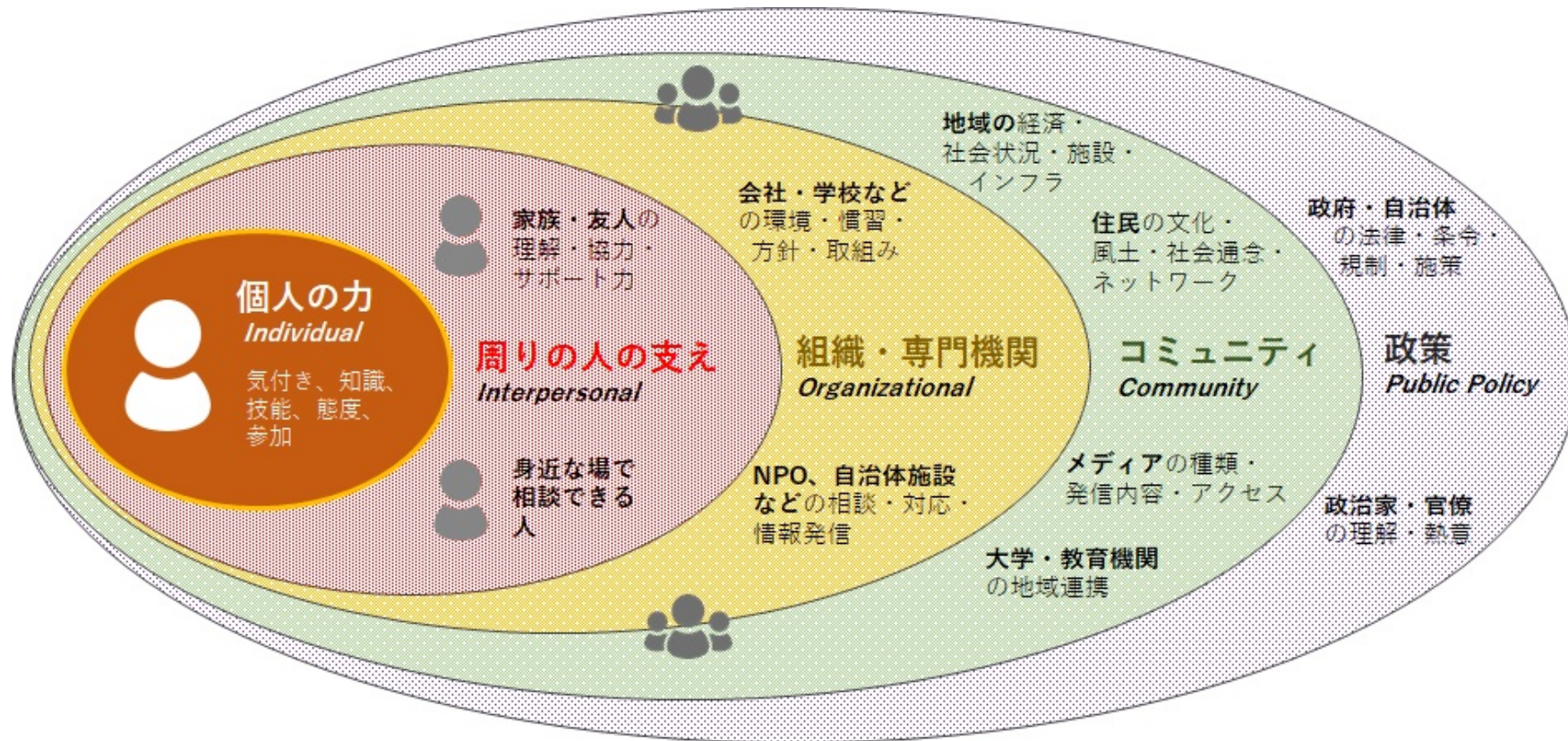
※Combined capabilityの概念と、CDC「Social Ecological Model」を組み合わせ、著者ら作成

Dynamic & Inclusive Partnership

As Tools

e.g. enabler for achieving SDGs, means of implementation and social change

As Objectives

e.g. Deepen Individual Learning, Promote Social Learning, Relation Building, Idea Sharing, Responding Resilient Society, Develop Ownership

Different Perspectives of "Partnership"

As Rights

e.g. Based on "No One Left Behind", Building Sustainable & Inclusive Society, Empowerment, Rights for Participation

Project based, time bound

e.g. project planning, information sharing, events & festivals

Strategic, with mid/long term

e.g. community development, partnership with B&I

Different Types of "Partnership"

Policy based, with mid/long term

e.g. partnership with local government, Partnership under the local development plan

Collective Impact
By John Kania & Mark Kramer

TYPES OF COLLABORATIONS

Organizations have attempted to solve social problems by collaboration for decades without producing many results. The vast majority of these efforts lack the elements of success that enable collective impact initiatives to achieve a sustained alignment of efforts.

Funder Collaboratives are groups of funders interested in supporting the same issue who pool their resources. Generally, participants do not adopt an overarching evidence-based plan of action or a shared measurement system, nor do they engage in differentiated activities beyond check writing or engage stakeholders from other sectors.

Public-Private Partnerships are partnerships formed between government and private sector organizations to deliver specific services or benefits. They are often targeted narrowly, such as developing a particular drug to fight a single disease, and usually don't engage the full set of stakeholders that affect the issue, such as the potential drug's distribution system.

Multi-Stakeholder Initiatives are voluntary activities by stakeholders from different sectors around a common theme. Typically, these initiatives lack any shared measurement of impact and the supporting infrastructure to forge any true alignment of efforts or accountability for results.

Social Sector Networks are groups of individuals or organizations fluidly connected through purposeful relationships, whether formal or informal. Collaboration is generally ad hoc, and most often the emphasis is placed on information sharing and targeted short-term actions, rather than a sustained and structured initiative.

Collective Impact Initiatives are long-term commitments by a group of important actors from different sectors to a common agenda for solving a specific social problem. Their actions are supported by a shared measurement system, mutually reinforcing activities, and ongoing communication, and are staffed by an independent backbone organization.

ACTIVE

INCREASED LEVELS OF DECISION-MAKING POWER →

RESPONSIVE

THE 'POWERFUL' HAVE CONTINUED RIGHT TO DECIDE, BUT 'POWERLESS' CAN ADVISE →

'POWERLESS' CAN HEAR AND BE HEARD, BUT HAVE NO ASSURANCE OF BEING HEEDED BY 'POWERFUL' →

PASSIVE

'EDUCATE' OR 'CURE' THE 'POWERLESS' →

8. CITIZEN CONTROL

7. DELEGATED POWER

6. PARTNERSHIP

5. PLACATION

4. CONSULTATION

3. INFORMING

2. THERAPY

1. MANIPULATION

DEGREES OF CITIZEN POWER

DEGREES OF TOKENISM

NON-PARTICIPATION

https://360participation.com/models-of-participation/

Arnstein, S. (1971) 'A Ladder of Citizen's Participation', Journal of the American Institute of Planners, no 35, July.

LOOP 4 :
"Our Collaboration for Our Community"

Team Building with Different Expertise

Self-development & Sustainability of Our Activities

Developing Action Plan

Questioning to Local People

新たな公共の
担い手へ

Dialogue and Collaboration with Local Government

LOOP 3 :
"My Action in My Community"

Opportunities for Arranging My Thoughts

活動の実践を
通しての
地域理解の深まり

Partners for Common Actions

Identification of the Issues with Public Views

Information of Community & Society

Concern to Community & Society

Deep Understanding of Local Issues

Opportunities for Talking about Community & Society

Private Activities

Participation to Local Activities

対話から地域への
参加の促進と
地域課題の理解

My Interests

地域との
接点のない
生活

LOOP 1 :
"Daily Life without Community"

LOOP 2 :
"Discover Community"

Easy Participation to Local Activities

Friends with share of Concern

Participation to the Events with my Concern

My Friends

Collaborative Governance

(2) INSTITUTIONAL DESIGN
- Participatory Inclusiveness
- Forum Exclusiveness, Clear
- Ground Rules, Process
- Transparency

(1) STARING CONDITIONS

Power-Resource-Knowledge Asymmetries

Incentives for and Constraints on Participation

Prehistory of Cooperation or Conflict (initial trust level)

(3) COLLABORATIVE PROCESS

Trust Building → Commitment to Process

Face to Face Dialogue

Intermediate Outcomes → Shared Understanding
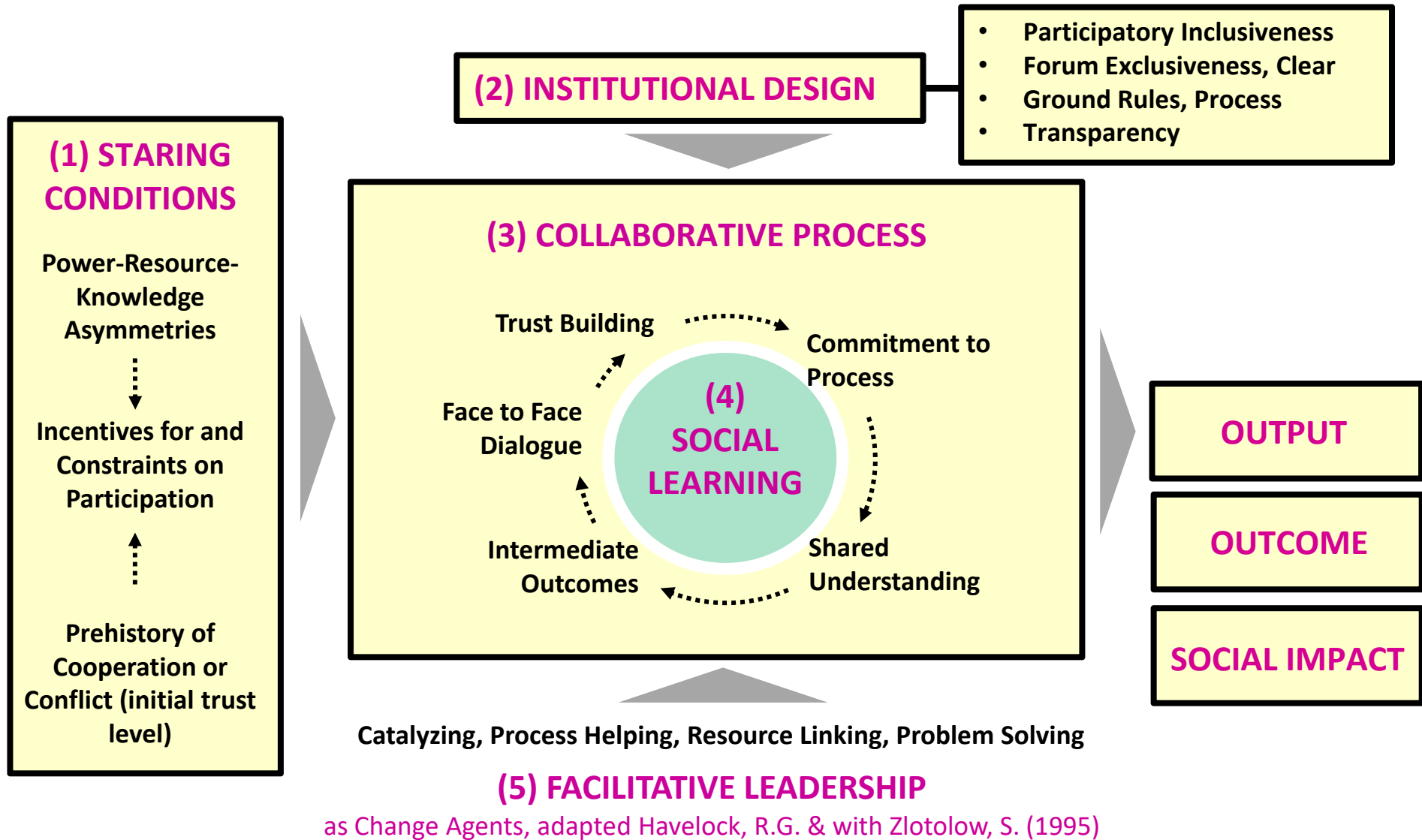
OUTCOME

Adapted from Ansell & Gash (2008)

Ansell & Gash (2008) proposed a collaborative governance model by collecting **137 case** *studies on collaboration, extracting common variables (elements) and analyzing the relationships between them. It is important to note that the literature analyzed by Ansell & Gash was written in English and primarily consisted of cases in the U.S., the proliferation of natural resource management, and the involvement of administrative bodies. Their collaborative governance model is comprised of the following five items, - (1) starting conditions, (2) institutional design, (3) collaborative process, (4) facilitative leadership, and (5) outcomes, - and aims to be* **a contingency model***, marked by the aspect that different responses would be required for different environments.*
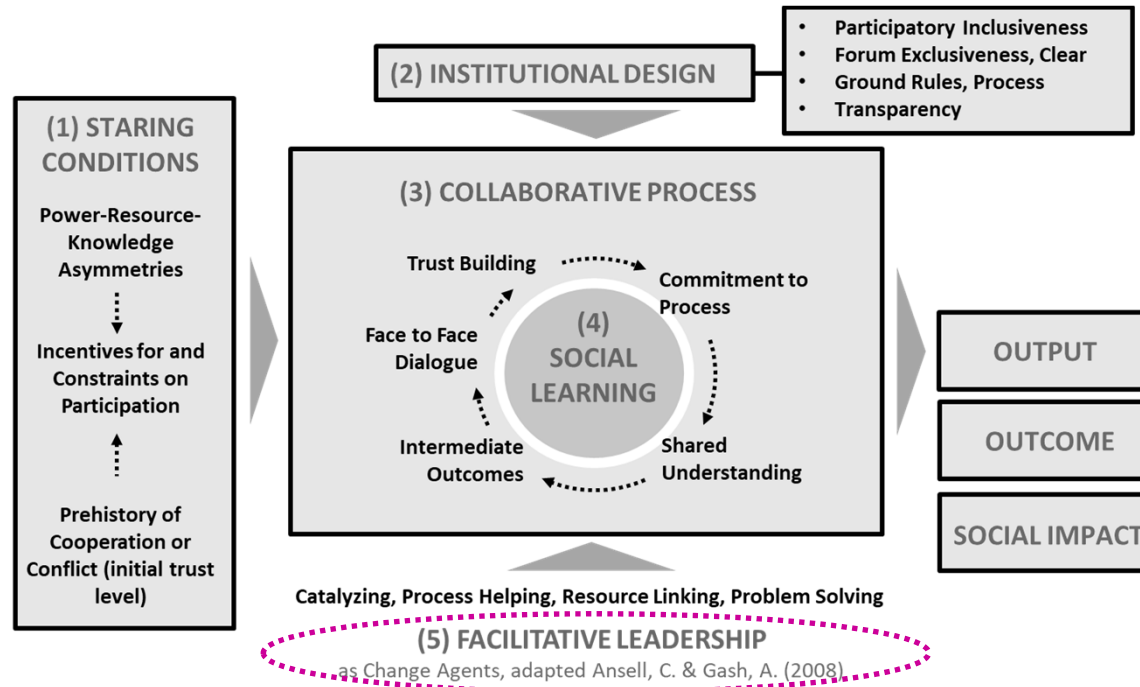
Collaborative Governance Adapted Model Based on 49 Case Studies (Japan)

(2) INSTITUTIONAL DESIGN

- Participatory Inclusiveness
- Forum Exclusiveness, Clear
- Ground Rules, Process
- Transparency

(1) STARING CONDITIONS

Power-Resource-Knowledge Asymmetries

Incentives for and Constraints on Participation

Prehistory of Cooperation or Conflict (initial trust level)

(3) COLLABORATIVE PROCESS

Trust Building

Commitment to Process

Face to Face Dialogue

(4) SOCIAL LEARNING

Intermediate Outcomes

Shared Understanding

OUTPUT

OUTCOME

SOCIAL IMPACT

Catalyzing, Process Helping, Resource Linking, Problem Solving

(5) FACILITATIVE LEADERSHIP
as Change Agents, adapted Havelock, R.G. & with Zlotolow, S. (1995)

Roles of Intermediary Organizations, in Collaborative Governance

(a) Catalyzing

(b) Process Helping

(c) Resource Linking

(d) Problem Solving

(5) FACILITATIVE LEADERSHIP

as Intermediary Support Functions
（CLCs, EE Centers, Liaison Offices, etc.）

Steps	Features
1) Engagement in a Situated Community	• Participatory Infrastructure • Community Access to Vehicles of Change • Elaboration of Common Objectives/Vision (for a sustainable future)
2) Exploration of Innovative Interdependence	• Action Research: observation, assessment and reflection • Map existing capacities and assets, as well as needs and desires • Engage individuals in a process of investigation, learning, advocating and teaching
3) Aligning Common Understandings and Coordination	• Planning community strategies for sustainable development and lifestyles • Transition from abstract conceptualisation to concrete experience – through utilising active experimentation as a form of pragmatic knowledge testing and validation • Reification through action and reflection