

January 9, 2010
The Second Annual Conference
of the Academic Network for Development in Asia

Skill Development by Asian Affiliates of Japanese MNEs:
Stepwise Hybrid Skill Development and Its Implication for TVET

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I . Introduction

II . Stylized Findings on J-MNEs' Skill Development

- ◆ Steady progress in skill development
- ◆ Unsatisfactory in the promotion to Top Management

III . Misalliance Problem

- ◆ Long term commitment vs. High mobility

IV . “○vs.□” Model Approach

- ◆ J-system: ○-model vs. Local conditions : □-model

V . Stepwise Hybrid Hypothesis based on “□&○-Model”

- ◆ □-model adjustment: 1st step modification
- ◆ ○&□-skill develop. : 2nd step & dynamic modification

VI . Discussions on Possible Linkages between J-MNEs & TVET Institutes

Table A-1 List of Interviewed Japanese MNEs in 2002

Case #	Location 1)	Type of Activities 2)	Currently manufactured products	Year of Establi.	Position of Interviewees 3) (career background)
1	SJ	MA	Lead lines for electronic components	1990	Managing director (engineer)
2	SJ	CO	Capacitors	1978	Senior manager (administration)
3	SJ	AS	Audio-Products	1977	Managing director (engineer)
4	SJ	CO	Components for digital watches	1987	Director (engineer)
5	SS	CO	Print circuit board	1980	Deputy general manager (admin.)
6	SJ	MA	Glass components for visual products	1979	Deputy director (administration)
7	S	MA	Glass components for visual products	1979	Managing director Director (administration)
8	MM	CO	Components for audio, visual & IT products	1990	Managing director (engineer)
9	MH	CO	Components for audio, visual & IT products	1989	Manager (administration)
10	MJ	AS	Audio-visual products	1984	Representative (external relations)
11	MM	AS	Portable phones	1987	President (engineer)
12	MJ	CO	Fabricated wires and flat cables	1988	Managing director (engineer)
13	C	CO	Fabricated wires and flat cables	1994	Director (engineer)
14 4)	C	CO, AS	Speakers for audio products	1997	President (engineer)
15	C	MA	Steel plates for audio, visual & IT products	1995	Managing director (admin.) Deputy managing director (engineer)
16	C	CO	Components for audio, visual & IT products	1994	President (engineer)
17	C	AS	Audio-visual products	1994	President (engineer) General Manager (admin)
(Note)					
1) Abbreviations for Location are as follows.			2) Abbreviations for type of activities are as follows.		
SJ: Interviewee was in Singapore (1998), and was in Japan (2002).			MA: Material processing		
SS: Interviewee was in Singapore (1998 & 2002)			CO: Components manufacturing		
MJ: Interviewee was in Malaysia (1998), and was in Japan (2002).			AS: Final Assembly		
MM: Interviewee was in Malaysia (1998 & 2002)			3) For those interviewed both in 1998 and 2002, their positions in 1998 are listed.		
MH: Interviewee was in Malaysia (1998), and was in Hong Kong (2002).			4) In case 14, the firm was not a Japanese MNE. However, her co-founders are		
S : Interviewee was in Singapore (2002).			Japanese originally from an affiliate of a Japanese MNE in Taiwan.		
C : Interviewee was in China (2002)					
(Source) Hayashi (2004)					

Table 1. “Context Specific Skill” vs. “Occupational Skill”

Context Specific Skill: Long Term Commitment	Occupational Skill: High Mobility
<ul style="list-style-type: none"> ① OJT & Longer Time ... It is developed mainly through OJT, while taking longer time. ② Career Path with Some Range... It is efficiently developed through experiences of several inter-related tasks and/or positions. ③ Vaguely Defined Tasks ... These tasks or positions are not so clearly defined with less degree of differentiation or specialization. ④ Tacit Knowledge ... It is likely to take form of tacit knowledge which is not readily transferable by documentation and/or illustration. 	<ul style="list-style-type: none"> ① Formal Education & Training ... It is likely to be acquired through formal education or training institutes outside of the firm. ② Standardized Qualification ... It is likely to be defined and standardized by the qualifying institutes outside of the firm. ③ Specialized & Differentiated ... It is likely to be specialized, and similar ones are likely to be differentiated with each other. ④ Explicit Knowledge ... It is likely to take form of explicit knowledge which is readily transferable by documentation and/or illustration.

Source: Hayashi (1999)

Table 2. Institutional Factors : “Context Specific Skill” vs. “Occupational Skill”

	Context Specific Skill: Long Term Commitment	Occupational Skill: High Mobility
Mentality of workers	<ul style="list-style-type: none"> ① Stronger commitment to the firm ② Weaker sense of specialized professionalism ③ Comfortable with flexible engagement in task and/or position assignment ④ Mentality for mutual learning with knowledge and information sharing 	<ul style="list-style-type: none"> ① Weaker commitment to the Firm ② Stronger sense of specialized professionalism ③ Comfortable with well-defined engagement in task and/or position assignment ④ Mentality for own learning and less attention to knowledge and information sharing
Labor Market Conditions	<ul style="list-style-type: none"> ① Context specific skill is dominantly utilized by majority of firms. ② New graduate recruitment is dominant. ③ Social and pecuniary penalty for job hopping is high. 	<ul style="list-style-type: none"> ① Occupational skill is dominantly utilized by majority of firms. ② New graduate recruitment is not necessarily dominant. ③ Social and pecuniary penalty for job hopping is minimal.
Career Path & Incentive Schemes	<ul style="list-style-type: none"> ① Internal promotion within internal ranking hierarchy ② Evaluation based on development & utilization of context specific skill ③ Slower speed in competition for promotion ④ Seniority wage system & lump sum payment at retirement 	<ul style="list-style-type: none"> ① Upgrading specialized skill by changing firms and taking best opportunities ② Evaluation based on the level of occupational skill qualified in the open market ③ Higher speed in competition for promotion ④ Wage is based on the level in the occupational market and retirement payment is minimal.

Source: Hayashi (1999)

Table 3. Static and Dynamic Efficiency of J-system

[Static Efficiency]

- ① **Speedy and efficient problem management**, which is based on context specific skills (i.e., flexible problem management capability) of individual workers
- ② **Speedy and efficient horizontal coordination**, which is based on intensive communication and information sharing among neighboring sections

[Dynamic Efficiency]

- ① **Dynamic improvement in problem management capability**, which is through flexible commitment to gray areas & mutual learning experiences with knowledge & information sharing

Source: Hayashi (1999)

Table 4. Possible Inefficiency due to Misalliance

Characteristics of J-system	Local Conditions	Possible Inefficiency in HRD due to Misalliance
Developed through OJT & taking longer time	Weaker commitment to the firm	Context specific skill cannot be fully developed and utilized.
Career path of inter-related tasks & positions	Stronger sense of specialized Professionalism	Intra-firm career path of inter-related positions cannot be experienced.
Vaguely defined tasks with less specialization	<ul style="list-style-type: none"> ① Mentality of well-defined commitment ② mentality of own learning with less knowledge and information sharing 	<ul style="list-style-type: none"> ① Flexible engagement in gray areas & efficient problem management cannot be achieved. ② Dynamic improvement in problem management capability cannot be expected through neither flexible commitment nor mutual learning
<ul style="list-style-type: none"> ① Seniority wage system & retire payment ② Slower competition for promotion 	<ul style="list-style-type: none"> ① Weaker commitment to firm & specialized professionalism ② Occupational skill is dominant. ③ Minimal penalty for job hopping 	<ul style="list-style-type: none"> ① Facing the trade-off of “high wage vs. high rate of job-hopping” ② Misapplied equality can be the case, and not sufficient chances are given to highly evaluated workers.

Source: Hayashi (1999)

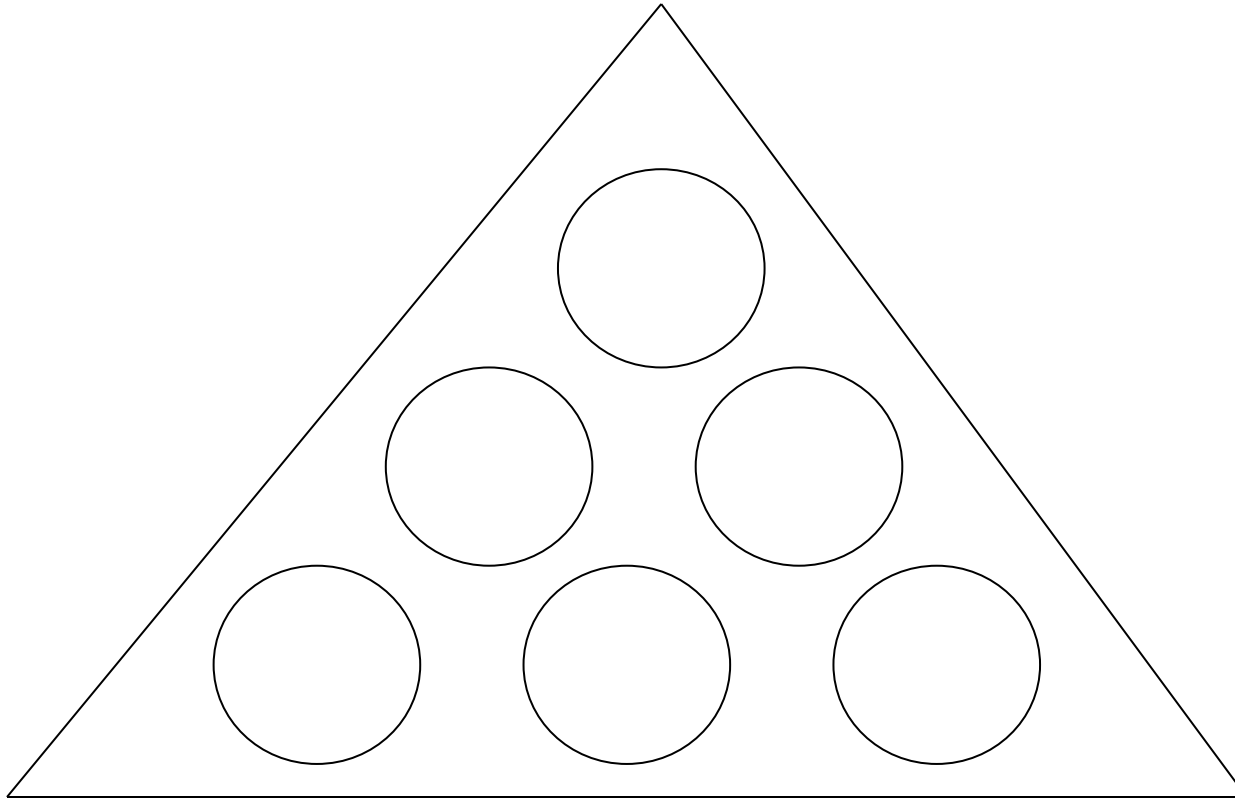


Figure 1. O(J)-Type

Note: Gray zones are intentionally utilized in order to improve efficiency by flexible cooperation among members.

Source: Ishida (1994, p7)

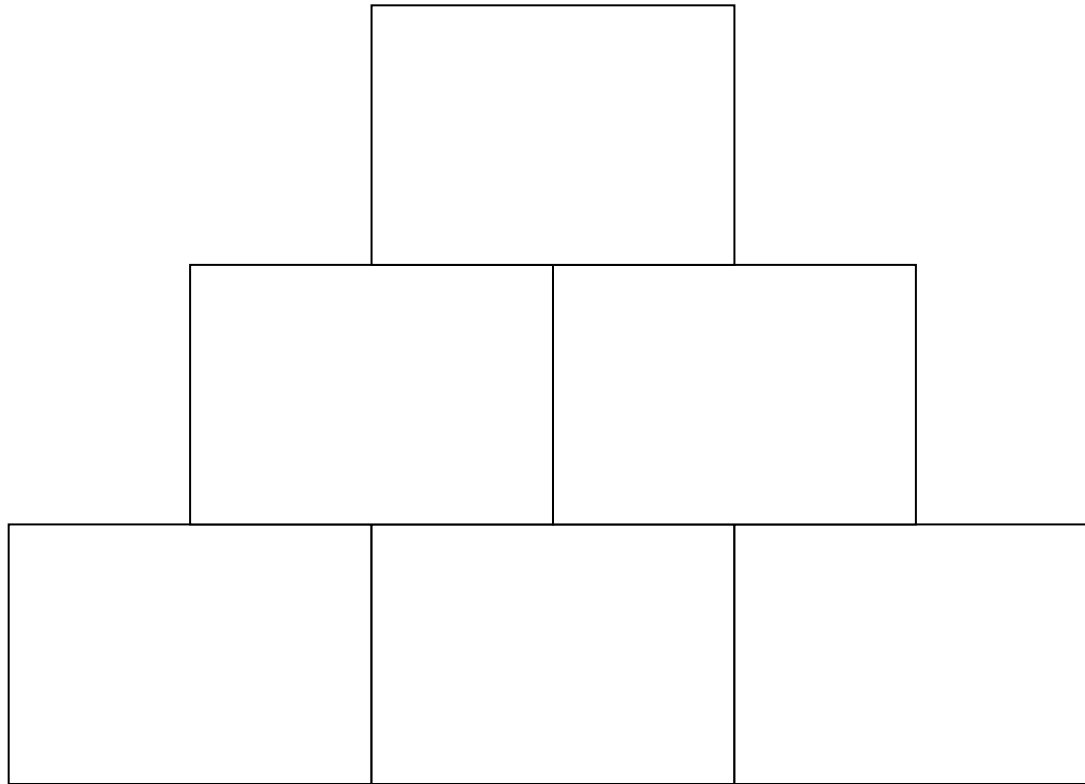


Figure 2. □ (F)-Type

Note: Gray zones are expected to be minimized, so that the division of labor can be smoothly achieved.

Source: Ishida (1994, p7)

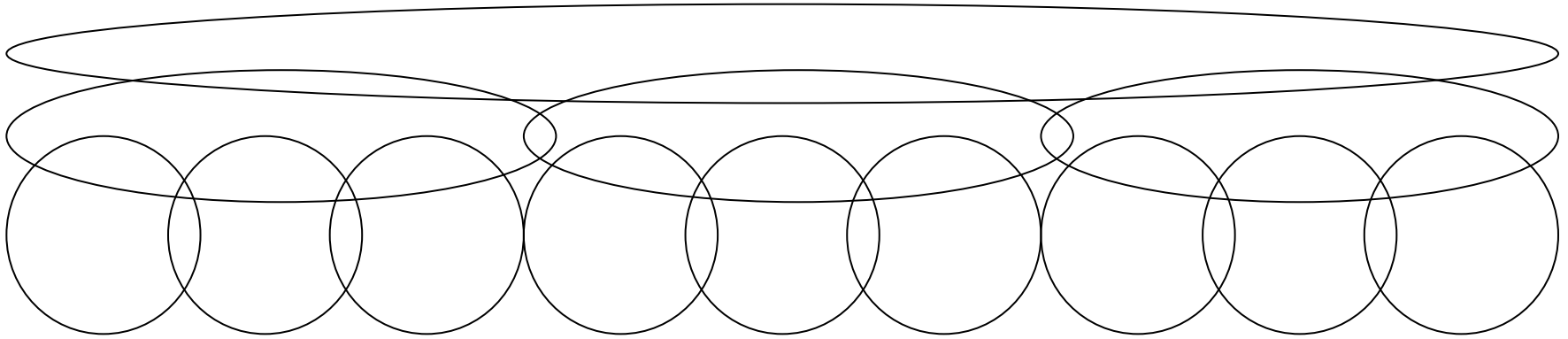


Figure 3. O-Model

Note: “Gray areas” are likely to become “overlapping areas”, as they are efficiently managed by flexible collaboration of team members.

Source: Hayashi (2004)

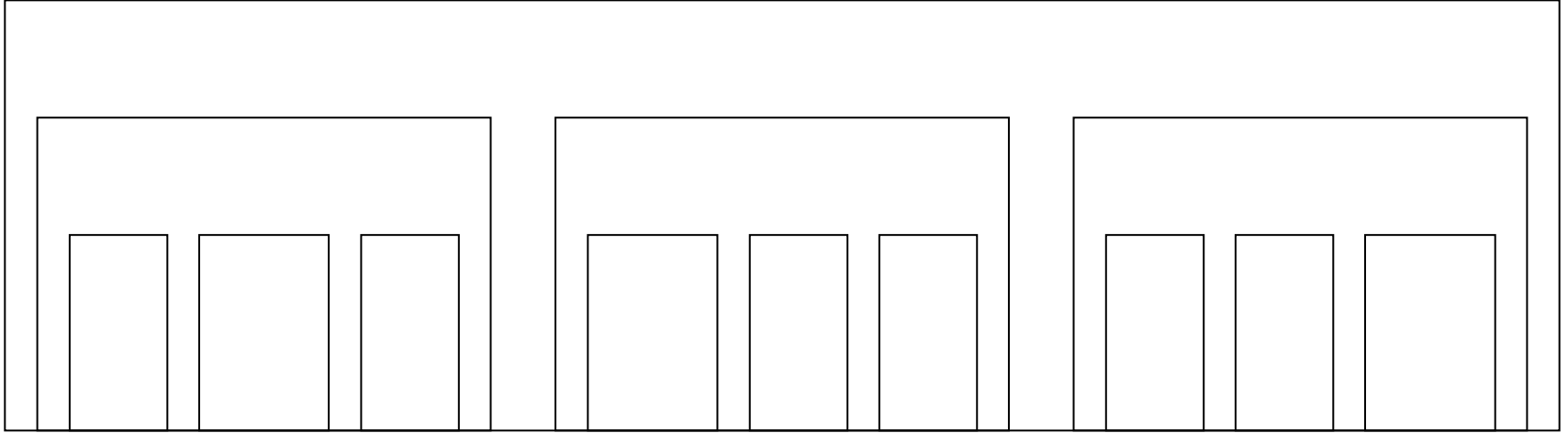


Figure 4. □-Model

Note: “Gray areas” are likely to become “vacant areas”, which are supposed to be managed by the responsible upper rank members.

Source: Hayashi (2004)

Table 5. ○-Model vs. □-Model

Major Characteristics		○-Model	□-Model
Manners of Tasks & Job Assignment	1) Gray (not clearly defined) areas	Greater	Smaller
	2) Borderline of individual tasks and their authority & responsibility	Vague	Clear
Mode of Skill & Knowledge	3) Sharing among members & neighboring sections	High	Low
	4) Relative importance in context specific knowledge & experiences	High	Low
	5) Relative explicitness in the form of documentation & illustration	Tacit	Explicit
Manners of Coordination & Collaboration	6) Horizontal vs. vertical coordination	Horizontal	Vertical
	7) Intensity in coordination & collaboration with neighboring sections	High	Low

Source: Hayashi (2004)

Table 6. Stepwise Hybrid Hypothesis

Major Characteristics		□-model Adjustment	○&□-skill Development
Manners of Tasks & Job Assignment	1) Gray (not clearly defined) areas	Small	Responsibility : □ ... Smaller Possi. Support : ○ ... Greater
	2) Borderline	Clear	Responsibility : □ ... Clear Possi. Support : ○ ... Flexible
Mode of Skill & Knowledge	1) Sharing among members & sections	Low	+○ : Higher
	4) Context specificity	Low	○&□ : dynamic feedback of tacit & explicit knowledge
	5) Explicitness	Explicit	
Manners of Coordination & Collaboration	6) Horizontal vs. vertical coordination	Vertical	○&□ : horizontal coordination backed up by vertical checking mechanism
	7) Coordination and collaboratsection	Less important	
Workers' Mentality in facing Problems		Well-defined commitment	+○ : Flexible support & cooperation
Human Resource Management		Higher speed in picking up for promotion	○ : Opportunities for self-fulfillment → steady progress in localization → prosperous circle can start

Source: Hayashi (2004)

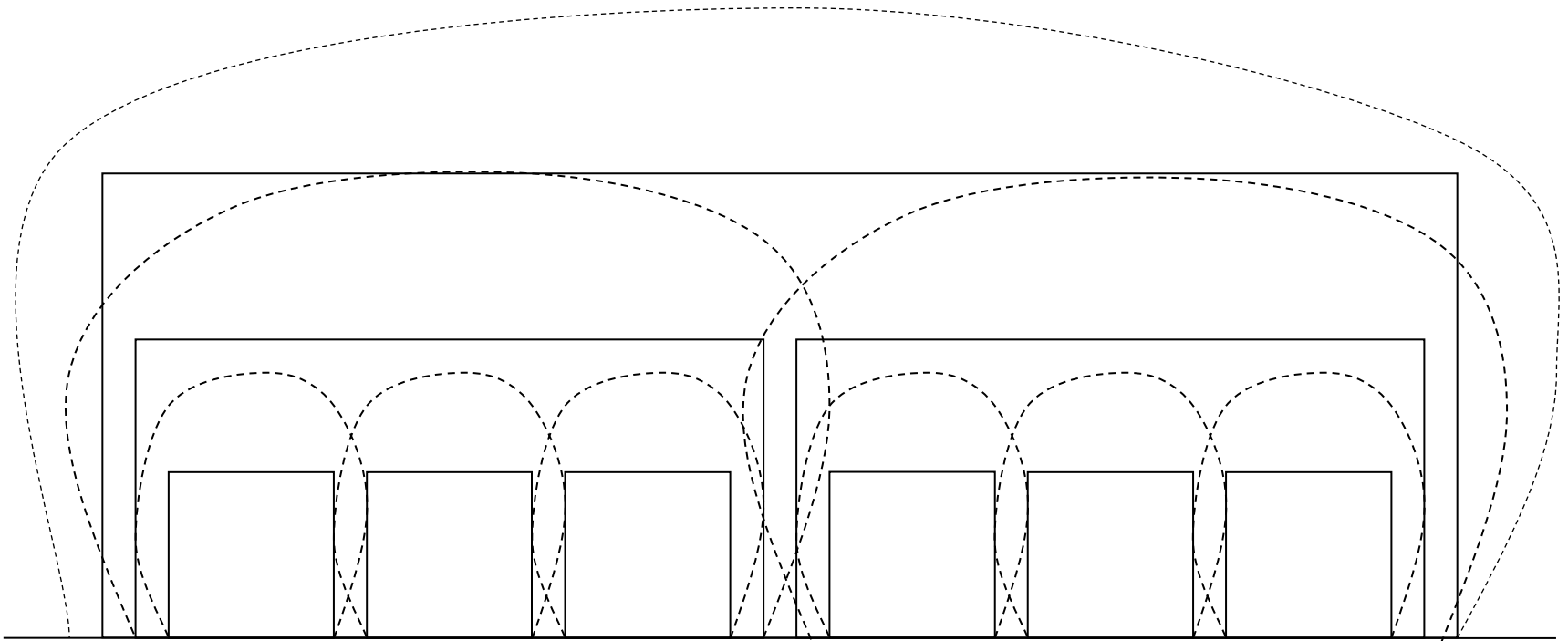
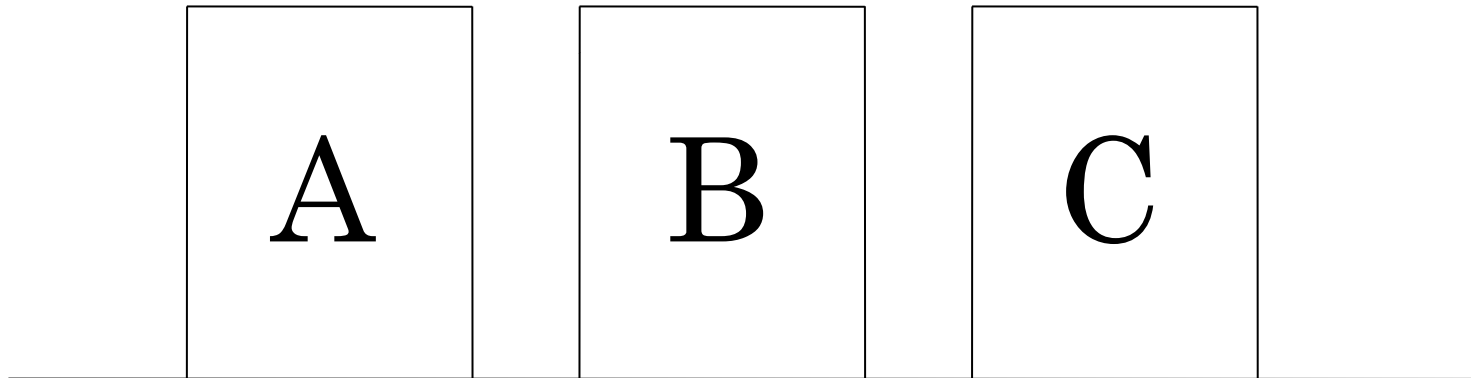


Figure 5. Illustrative Image of Stepwise Hybrid

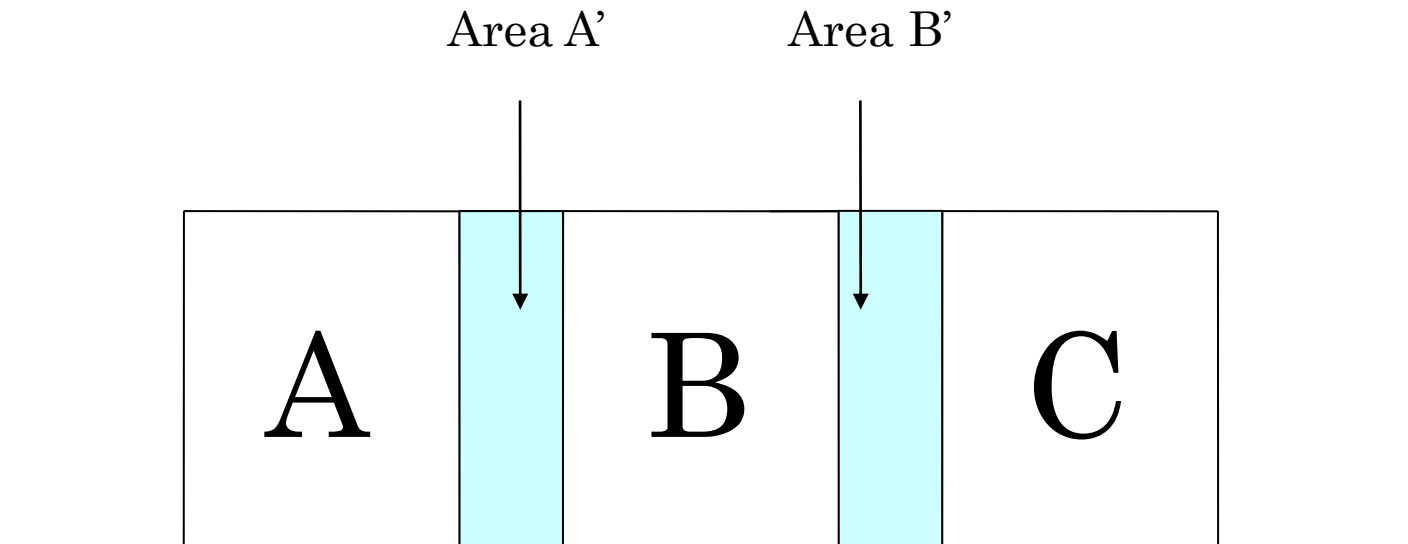
Source: Hayashi (2005)



Note: Newly employed workers are assigned to the easiest module “A” at the beginning stage.

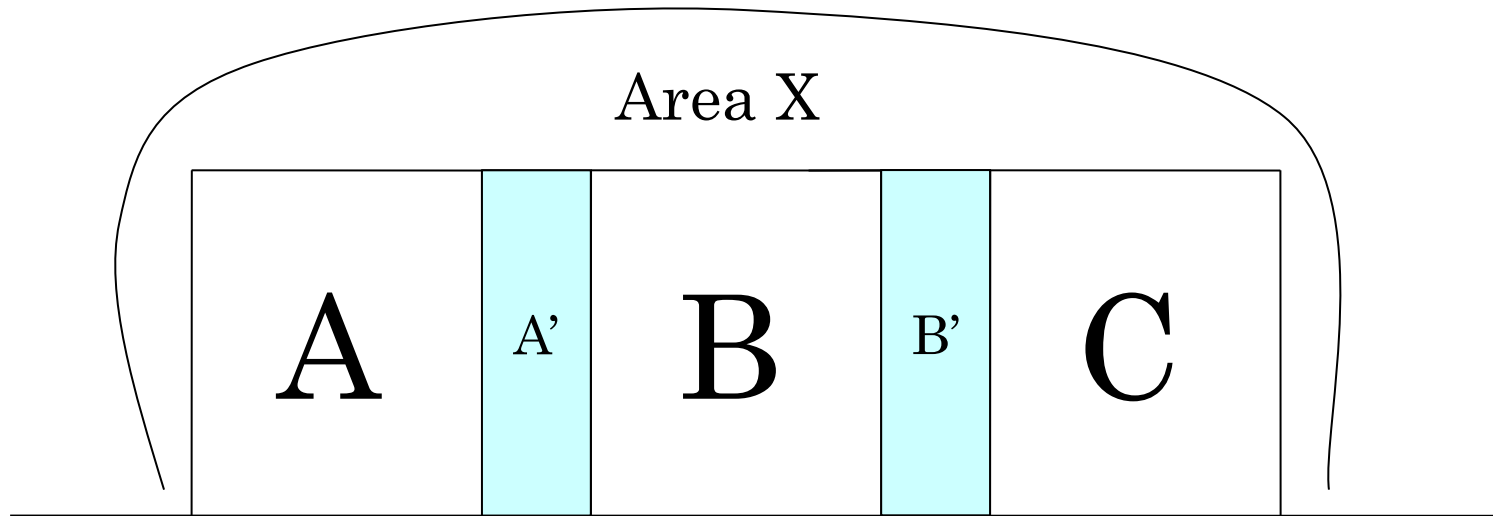
Source: Hayashi (2005) for 6–1, 6–2, and 6–3

Figure 6-1 Skill Development for Cell Production: Step 1



- * As the learning progresses, they are assigned to more difficult modules “B” and “C” at the next stage.
- * During this process, they have better understandings on surrounding areas such as “area A” and “area B”.

Figure 6-2 Skill Development for Cell Production: Step 2



- * Now, experienced workers are assigned to the entire line of production (i.e., modules A, B, and C).
- * During this process, they have better understandings on “area X”, which can upgrade the problem management capability as a team.

Figure 6-3 Skill Development for Cell Production: Step 3