

Joint ITU-IEICE-IEEE Workshop on Education about Standardization

Saint Petersburg, Russian Federation, 2 June 2014

Study on Education about Standardization by IEICE Standard Education Committee, Japan

Hiroshi Nakanishi

**Vice-chairman of IEICE standard
education committee**

Osaka University

nakanishi@idiscp.osaka-u.ac.jp



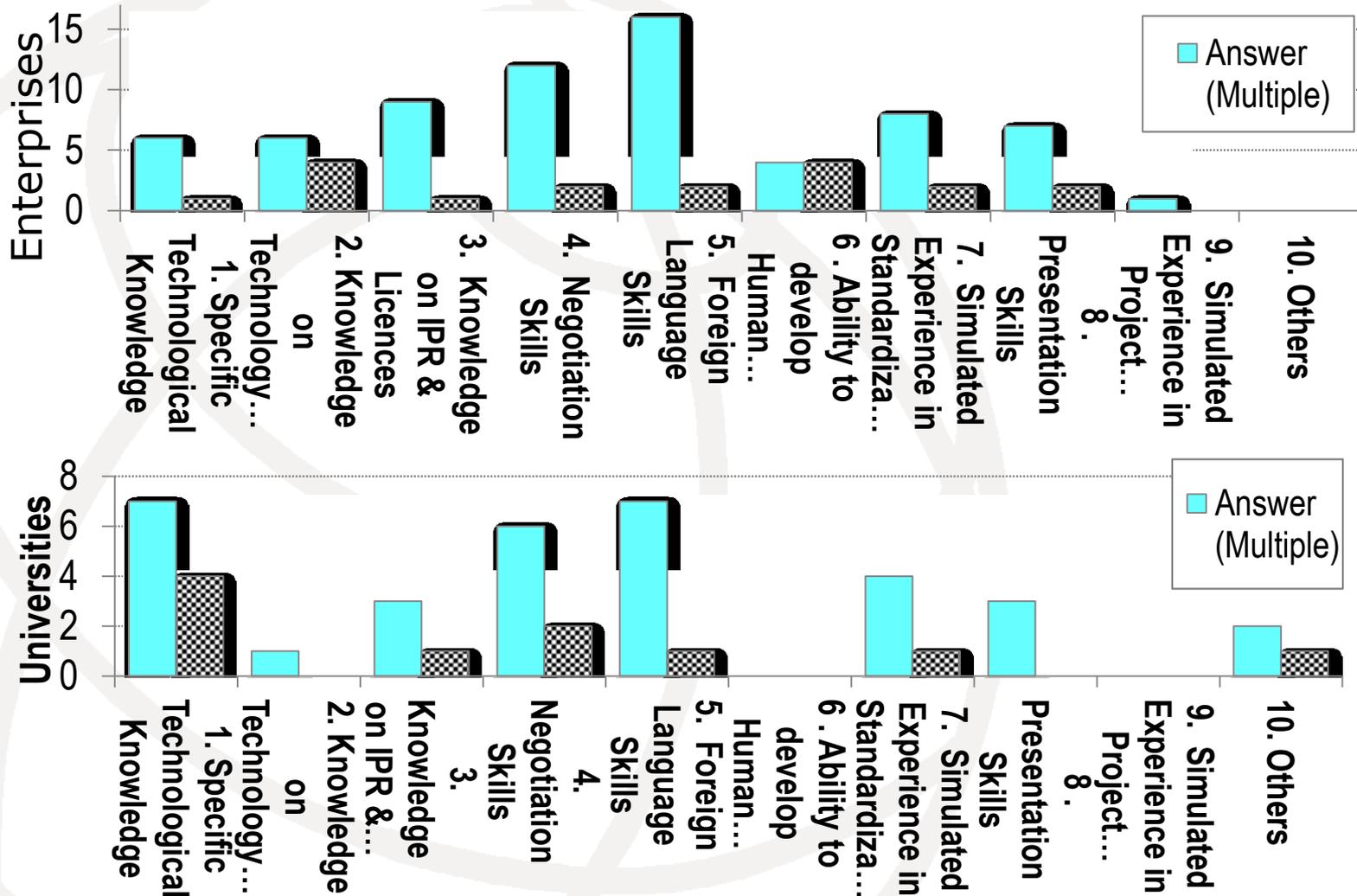
Table of Contents

1. Objectives and activities of the studies on education about standardization by IEICE
2. Questionnaire survey results and their analysis about standardization education in Universities and industries of Japan
3. Survey on programs and courses about standardization education in universities
4. Skill standards study about standardization
5. Questionnaire to collect information on programs and courses offered in universities worldwide
6. Conclusion

1. Objectives and activities of IEICE Standard Education Committee

- To survey situation and requirements about standardization education of industries and universities in Japan and foreign countries.
- To study about standardization skill standard.
- To plan education about standardization by IEICE.
- To plan and propose education and its materials about standardization

2. Questionnaire survey result and their analysis



Gaps analysis between the two is now on going.

3. Survey on programs and courses about standardization education in universities

- University of Geneva and Kanazawa Institute of Technology offer Master's degree program.
- Osaka University offers a certificate program as a minor study at graduate schools.
- 24 Japanese universities offer 45 courses about global standardization

3.Survey results of programs and courses in universities

Education Program	University of Geneva Master's Program	Master in Standardization, Social Regulation and Sustainable Development	Master's Degree 90 ECTS credits
	Kanazawa Institute of Technology Master's Program	Master in Strategic Professional Global Standardization	Master's Degree 36 credits
	Osaka University Minor Program for Graduate Students	Graduate Minor Program of Global Standardization	Completion Certificate ≥ 8 credits
Course (Japan)	Kanazawa I.T. (7 courses) Osaka Univ. (5 courses) Waseda Univ. (5 courses) Tokyo I.T. (4 courses) Tokyo Univ. (2 courses) Total 24 Universities 45 Courses		

Figure 1. Education programs and courses

4. "Standardization skill standard"

specifies

- - 36 tasks required for standardization, and
- - skills required for those tasks.

To evaluate the skills required for the tasks, the skill standard introduces

- - skill evaluation criteria on performance,
- - skill evaluation criteria on capability.

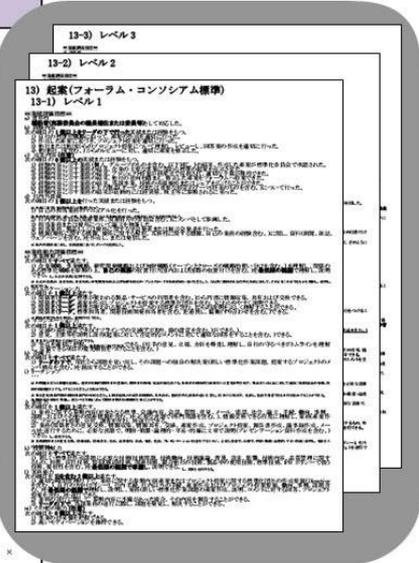
The skill and skill level are described in the skill card corresponding to the task.

Table 1. Tasks for standardization

		Standard Type							
		De jure standards	Forum/Consortium standards	De facto/Company-product standards	House rules	All types			
Task Phase	Strategy	Strategy planning	1) Strategy planning for standardization				34) Considering compliance	35) Considering human resource development	36) Considering intellectual properties
		Tactics planning	2) Information collecting/analyzing/evaluating and tactics planning						
			3) Supervising (Strategy)						
			4) Liaison establishing (Strategy)						
		Founding organization	5) Founding organization (De jure standards)	6) Founding organization (Forum/Consortium standards)	7) Founding organization (De facto/Company-product standards)	N/A			
	Managing organization	8) Managing organization (Strategy, De jure standards)	9) Managing organization (Strategy, Forum/Consortium standards)	10) Managing organization (Strategy, De facto/Company-product standards)	N/A				
	Development	Developing technology	11) Developing associated technology						
		Developing standards	12) Proposing new work items (De jure standards)	13) Proposing new work items (Forum/Consortium standards)	14) Proposing new work items (De facto/Company-product standards)				
			15) Drafting standards (De jure standards)	16) Drafting standards (Forum/Consortium standards)	N/A				
			17) Negotiating (De jure standards)	18) Negotiating (Forum/Consortium standards)	19) Marketing (De facto/Company-product standards)	N/A			
		Managing organization	20) Managing organization (Development, De jure standards)	21) Managing organization (Development, Forum/Consortium standards)	22) Managing organization (Development, De facto/Company-product standards)	N/A			
	Implementing	Applying standards	23) Applying standards						
		Acquiring certification	24) Conformance testing			N/A			
			25) Acquiring certification	26) Acquiring forum certification	27) Acquiring private certification	N/A			
	Promotion	Promotion planning	28) Information collecting/analyzing/evaluating and promotion planning			N/A			
			29) Supervising (Promotion)			N/A			
30) Liaison establishing (Promotion)			N/A						
Advertising		31) Advertising (De jure standard)	32) Advertising (Forum/Consortium standards)	33) Advertising (De facto/Company-product standards)	N/A				

- The skills of standardization are classified into three levels: the level 1,2 and 3.
- Each level of skills is defined by skill card which includes a set of data for items of skill evaluation criteria on performance and capability.

		標準種別				各種別共通
		デジュール標準	フォーラム・コンソシアム標準	デファクト・プライベート標準	標準	
業務	標準化戦略	1)標準化戦略				
	標準化企画	2)情報の収集・分析・評価および標準化戦略案・教書の作成				
		3)統括(戦略)				
		4)渉外(戦略)				×
	団体創設	5)団体創設(デジュール標準)	6)団体創設(フォーラム・コンソシアム標準)	7)団体創設(デファクト・プライベート標準)		×
		8)団体運営(戦略、フォーラム、コンソシアム標準、デジュール標準)	9)団体運営(戦略、フォーラム、コンソシアム標準、デファクト・プライベート標準)	10)団体運営(戦略、フォーラム、コンソシアム標準、デファクト・プライベート標準)		×
	開発	11)技術開発				
		12)起案(デジュール標準)	13)起案(フォーラム・コンソシアム標準)	14)起案(デファクト・プライベート標準)		
		15)実案作成(デジュール標準)	16)実案作成(フォーラム・コンソシアム標準)		×	
		17)交渉(デジュール標準)	18)交渉(フォーラム・コンソシアム標準)	19)マーケティング(デファクト・プライベート標準)		×
		20)団体運営(戦略、フォーラム、コンソシアム標準、デジュール標準)	21)団体運営(戦略、フォーラム、コンソシアム標準、デファクト・プライベート標準)	22)団体運営(戦略、フォーラム、コンソシアム標準、デファクト・プライベート標準)		×
	活用	23)社内標準管理				
24)適合性評価		25)認証取得	26)アワード	27)賞状認証取得	×	
普及	28)情報の収集・分析・評価および普及戦略案・教書の作成				×	
	29)統括(普及)				×	
	30)渉外(普及)				×	
普及・宣伝・広報	31)宣伝・広報(デジュール標準)	32)宣伝・広報(フォーラム・コンソシアム標準)	33)宣伝・広報(デファクト・プライベート標準)		×	
	34)宣伝・広報(標準)					
	35)人件育成					



tasks for standardization skill card
Figure 2 Glancing over the Skill standard

The skill standard makes it possible or feasible for a person or corporation to

- comprehend and describe existing situation of standardization human resource,
- set a target of education for standardization human resource,
- evaluate an effect of standardization education,
- collect standardization human resources,
- re-allocate standardization human resource,
- develop an education program or material for standardization human resource.

5. Questionnaire to collect information on education offered in universities worldwide

Questions are now in the process of design by the standard committee of IEICE.

It is summarized as in the following.

- Questions about the names of programs and courses in case offered.
- Questions about the websites address where syllabuses or course outlines are shown.
- Questions to ask about the skills required for standardization.
- Questions to ask expectations for the education about standardization by ITU.

Conclusion

Activities of IEICE Standard Committee are summarized as follows.

- Questionnaire survey results about standardization education show the importance of cultivating the ability of negotiation.
- 2 programs and 45 courses about standardization education.
- Standardizations skill standard has been studied and now are moving to next phase.
- Further questionnaire is now being designed to collect education programs and courses in universities world wide.