（AEN Project 2005）

Surveillance of e-Learning market trend, Technical trend, etc

March.2006

e-Learning Consortium Japan

1. Surveillance of e-Learning market trend, Technical trend, etc.

1.1 Objective

The objective of surveillance is to summarize as a report of the overseas market trend and technical trend of e-Learning in mainly Japan and Asian countries (AEN participating countries), and is to contribute to the further development and settlement of e-learning for enterprises and higher education in our country.

1.2 Overview

Questionnaire survey was conducted on present situation and of future effort e-learning on; 1) enterprises and organizations (vendors) that promote e-learning business, 2) personnel in charge of personnel affairs or training of enterprises and organizations, and 3) enterprise employees. The results of the questionnaire survey were analyzed to compile a report on present situation and future trends of e-learning business.

The case study interviews were also conducted for enterprises, organizations and higher education institutions that practically operate e-learning, in order to summarize the effective utilization status and the key to success of e-learning.

However, the items being surveyed were taken over as much as possible. The efforts for surveillance in this year were concentrated on enterprises and higher education institutions who occupy most of e-learning business markets continued from the last year. .

1.3 Survey content

1.3.1 Questionnaire (mailing or web questionnaire)

1) e-Learning user surveillance: For personnel in charge of personnel affairs or training of enterprises and organizations.

The surveillance was conducted by mailing the questionnaire to 2,250 enterprises regarding 33 items related to the introduction purpose, important item in introduction, introduction cost, introduction effectiveness and problem in introduction.

2) e-Learning user surveillance: For Personnel (employees) who take training at enterprise

The surveillance was conducted by web questionnaire to 1,000 monitors regarding 45 items related to the image of e-learning, presence or not of introduction, merit or demerit of introduction, change after introduction, introduction field (content), cost burden, learning effectiveness, degree of satisfaction, hour/location of learning and others.

3) e-Learning business surveillance: For vendors who work on various e-learning-related businesses.

The surveillance was conducted by detailed web questionnaire to 140 enterprises regarding 85 items related to the e-learning business area, system overview, development scale, concerned users, sales results and potential, sales point and others.

1.3.2 Case study interview

With cooperation from after-mentioned members of editorial board and eLC member enterprises, the detailed interview for 1-1/2 – 2 hours/1 case was conducted on 35 cases shown in Table 1-1 (27 cases in last year). Special efforts were made to pick up more various businesses for enterprise case study.

Table 1-1　Case study interview concerned

Interview concerned	◆ Enterprise case study [19 cases in total] Hitachi Institute of Management Development, Fuji Zerox, Family Mart, Kitamura, Kansai Electric Power, Sumitomo Cement Development, Mitsui & Co. Kirin Beer, S & B Foods, NTT East Japan, Panatec, Epson Intelligence, AIG, JTB, Ricoh, Chugai Pharmaceutical, Konica & Minolta, Denso, FANCL ◆ University case study [11 cases in total] Aoyama Gakuin University Professional School, Nagaoka University of Technology, Kanazawa Institute of Technology, Sonoda Women's University, Osaka University of Foreign Studies, Osaka University of Arts, Ritsumeikan Asia Pacific University, Nagoya University of Commerce & Business, Kanagawa University Graduate Division, Meiji University Graduate Law School, Waseda University ◆ Business case study [5 cases in total] Shiseido, Chuo Publishing, TAC, Toppan Printing, NTT Learning Systems

1.4　Seruveillance procedure

1.4.1 Questionnaire

The questionnaire procedure is as following:

1) e-Learning user surveillance - Personnel in charge of personnel affairs or training in enterprises and organizations -
   - Survey period: November - December 2005
   - Survey concerned: Conducted on mainly listed enterprises in Tokyo Stock Exchange
   - Distributed number: 2,250 enterprises
   - Collected number: 215 enterprises (collection ratio 9.5%)
     *Of which 100 enterprises have introduced e-learning, 110 enterprises have not introduced and 3 non responders.
   - Survey procedure: Mailing
2) e-learning user surveillance – Individual -
   - Survey period: January – February 2006
   - Survey concerned: Micromill Co., Ltd.　1036 registered monitors
   - Collected number: 1,036 persons
     *Of which 830 individuals have experienced e-learning in their enterprises, 206 individuals have not experienced.
   - Survey procedure: web questionnaire
3) e-Learning business surveillance – Vendor -
   - Survey period：December 2004
   - Survey concerned: Selected by eLC (approx. 140 enterprises)
     (e-Learning WORLD 2005 exhibitors, Vendor enterprises of member of specified nonprofit corporation e-Learning Consortium Japan)
   - Collected number: 36 enterprises

・Survey procedure: Web questionnaire

1.4.2 Case study interview

The case study interview was selected taking into consideration the following points:

・Selection method was based on the perspective such as a recommendation from the member of editorial board, diffusion of business fields, novelty and cases with quality value.

・Interview was also conducted on each case study of “Effectiveness of e-learning utilization”. A few organizations have exercised Level 1 of Kirkpatrick, while some enterprises have exercised interesting activities.

・For the provision of information on utilization case in university, the university was selected through assistance from the members of editorial board, Dr. Sono and Dr. Taguchi of National Institute of Multimedia Education (NIME).

1.5 Implementation system

The surveillance was conducted with the following system:

1) Editorial board

The editorial board that consists of 12 members, chaired by Mr. Yasutaka Shimizu, a director of the National Institute of Multimedia Education determined future direction of report. Furthermore, recommendation of case candidate, review of questionnaire item and proofreading of report manuscript were requested to each member.

2) Survey implementation

With cooperation of the secretariat (Mr. Takahashi of eLC), the surveillance was organized by the company in charge (UFJ Institute Ltd.), headed by Mr. Atsutoshi Oshima, a senior researcher as a project leader.

* Due to enterprise merge, the name of “UFJ Institute” changed to “Mitsubishi UFJ Research & Consulting”.

1.6 Surveillance results (overview)

1.6.1 e-Learning user surveillance - person in charge of personnel affairs or training in enterprises and organizations -

1) e-Learning introduction ratios in enterprises

2) According to this report, the e-learning introduction ratios in enterprise are as shown in the Figure 1-1; 47.6% (35.6% in last year)” have introduced”, 15.7 % (12% in last year) is “under study” and 36.7% (48.7% in last year) ”have not introduced”. From this result, it can be observed that the e-Learning introduction by enterprise is steadily progressing. Where employee size is observed, there is the correlation that larger the size of enterprise becomes, the higher the introduction ratio becomes high. The introduction ratio more than 5,000 employees is 86.1% while the introduction ratio of 1,000 – 1,999 employees is 32.8% which is low.

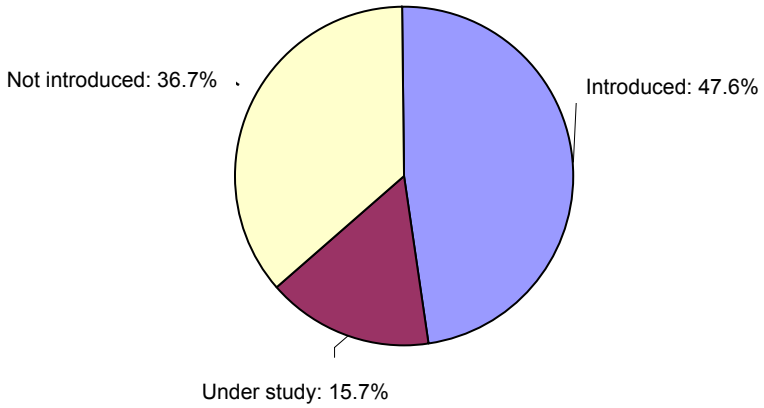

Figure 1-1　e-Leaning introduction ratio of enterprise（n=213）（non- 3 replies excluded）(SA)

For the e-Leaning introduction status by type of business, “Information and communication business of information service” is 76.5% high, “Service business” is 46.3%, “Manufacturer” is 45.2%, “Construction business” is 43.8% and “Wholesale and retail businesses” are 42.9%. Especially, large increase of introduction ratio in “Construction business” (23.5% in last year) is highlighted.

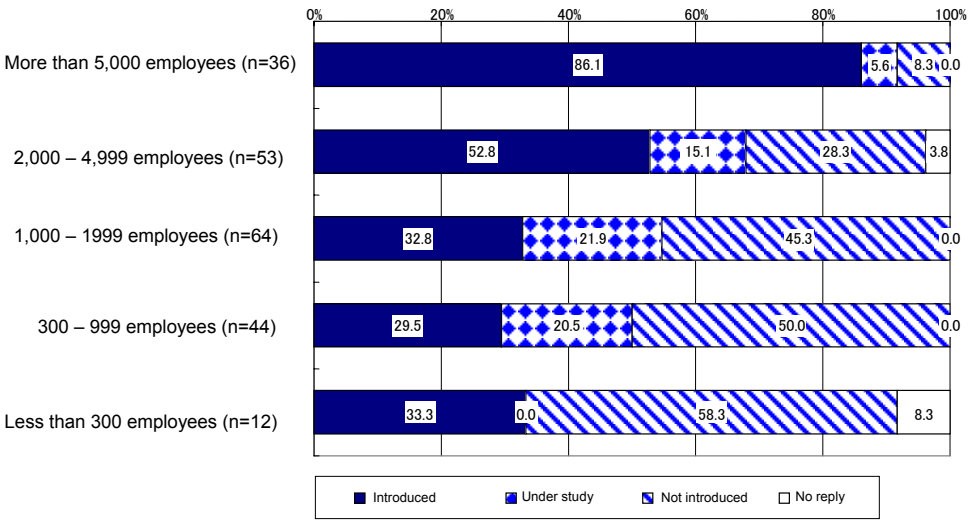

Figure 1-2　e-Learning introduction ratio detail by employee scale（SA）

2) Introduction field of e-Learning

The field that e-Learning has been introduced is 55.5% highest of “IT and computer”, followed by 43.0% of “Conventional wisdom (business manner, sexual harassment and others)” and “Business (accounting, law, finance and others)”. These results are nearly the same as the last year.

3) Problems at operation of e-Learning

When observing the problems at e-Learning operation, “Educational content matched with learning needs is insufficient” is extremely highest of 42.0%, following “Effectiveness to introduction and others is difficult to understand” is 27.0% and “Understanding to meaning and necessity is insufficient” is 22.0%. This shows that the content to conduct effective education by each enterprise is an important.

4) Introduction condition of enterprise not introduced e-Learning

When observing chance and condition to introduce e-Learning to enterprise who had not introduced, “If information of e-Learning effectiveness has increased” is highest 40.9%, following “If the cost of e-Learning lowers” is 34.5% and “If infrastructure has been maintained” is 33.6%, which are nearly the same as the last year.

5) Evaluation and effectiveness of e-Learning

For the evaluation of e-Learning, “Efficiency of learning (period shortening, etc.” and “Improvement of learner and increase of learning opportunity” are 32.0% and 28.0% respectively. Furthermore, for implementation status of the e-Learning evaluation, “Being conducted” is 81.0% high, however when observing the evaluation technique, the current status depends on conventional technique of “Understanding examination” and “Questionnaire immediately after training to learner”.

1.6.2 e-Learning user surveillance – individual -

1) Image and advantage of e-learning

Image of e-learning is pointed out with the keywords such as “Internet ”, “24 hours a day, anywhere at any time”, ”usability” and others.

In addition, for the learning advantage using the e-learning, “Freedom of time” is 90.5%, “Freedom of the place” is 56.7%, “Points which are not restricted by time and place” and “Learnable repeatedly” are 45.3% which can not be conducted by assembly education, are highly evaluated. While the demerits are as follows; “Difficulty of maintaining the motivation of lecture attendance continuation” is 33.4%, “Lack of interactivity between the lecturer and the students” is 31.1%, etc. These results are nearly the same as the last year.

2) Learning effect

Concerning the learning effect by e-learning, “There is some effect “ is 69.0%, and if 2.2% of answer of “There is extremely large effect” is added, it exceeds 70%, and

a large effect has been recognized even compared with the last year results (54.3%, in total). (Refer to Figure 1-3)

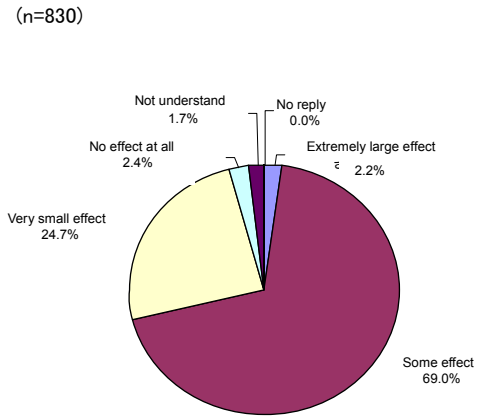

Figure 1-3　Learning effect by e-Learning

3)　Time, place and season of lecture attendance

Concerning the learning time by the e-learning, “15 – 30 minutes or less” per 1 time is 39.4% , “half – 1 hour” is 36.4% highest, and about 75% is within 1 hour. Compared with the last year surveillance, the learning ratio by short time has been increasing, and the utilization method to effectively learn required knowledge by the e-Learning has been increasing.

When observing the lecture attendance place of e-Learning, “His desk at his company” is 78.1% highest (47.8%in last year).

Furthermore, when observing the lecture attendance season of the e-Learning, “Within working hour on working day” is 69.6% highest (45.0% in last year), “Off-duty on working day (lunch break included)” is 40.5% and “Holiday” is 20.1%. Compared with the last year, the lecture attendance within working hour has been increasing, and if increase of the lecture attendance at “His desk and his company” is considered, it is seemed to be the result that recognition of the e-Learning by companies is increasing.

4)　Mobile learning

Regarding utilization status of the e-Learning conducted for the first time, “Ever have used” is only 4.8% due to problems of improvement of communication status and communication cost, and it may take a long time to propagate it.

1.6.3 e-Learning business surveillance - vendor -

From the result of the vendor questionnaire (web investigation), the following statuses became clear:

1) The vendor's business area

As can be understood from the following figure, enterprises relating to content development is increasing. Shift to a side business seen from the surveillance in the last year is rapidly progressing. (Refer to Figure 1-4)

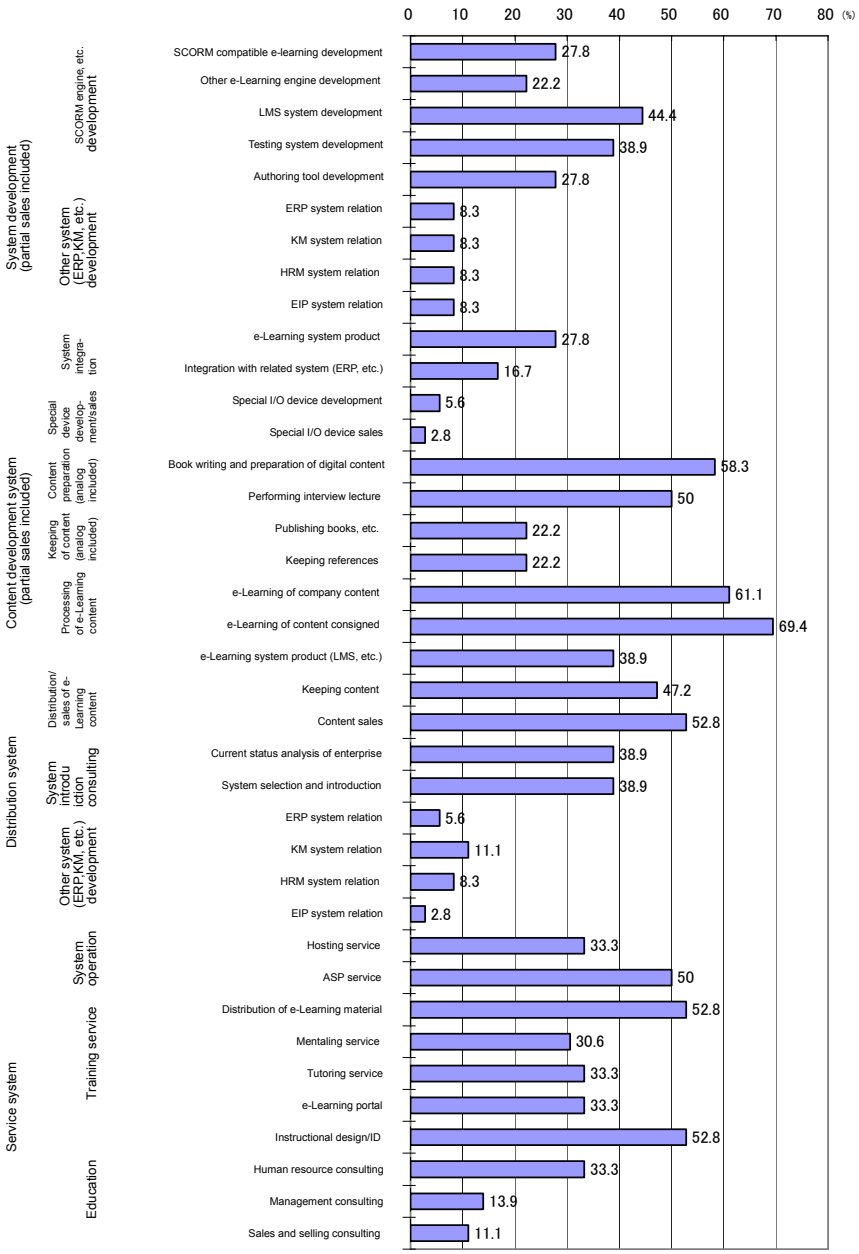

Figure 1-4　Business area of vendor

2) System vendor

When observing types (genre) of product being developed by the system vendor, “LMS (Learning Management System)” is 69.6% highest, following 60.9% of “ SCORM engine, etc. and e-Learning engine”. (Refer to Figure 1-5)

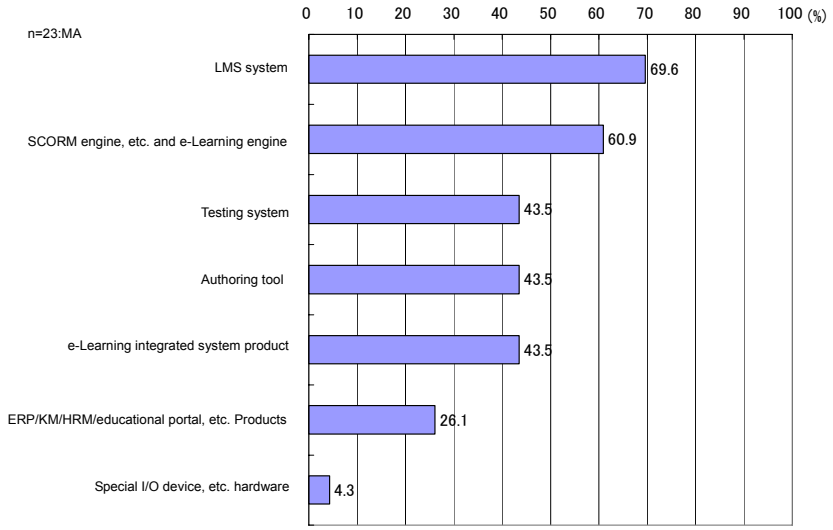

Figure 1-5　Genre of system product (n=23 companies　MA)

When observing the system product user of vendor, “Education within enterprise” is 91.3% highest, following “65.2% of “Higher education (university, post graduate, college and junior college)”, and it can be understood that enterprises and higher education institutes are major user groups of the system product. (Refer to Figure 1-6)

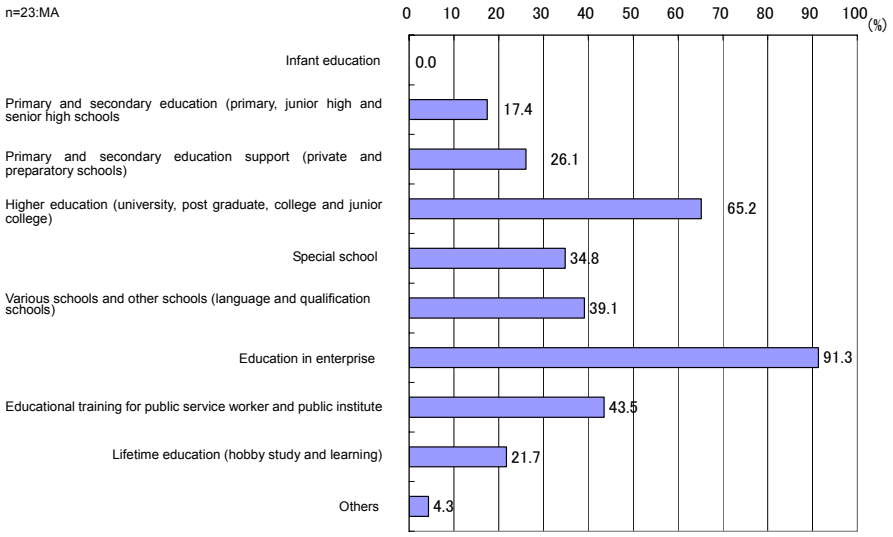

Figure 1-6　Educational site where system products are used (n=23 companies MA)

3) Content vendor

Users of content vendor greatly targets “Education in enterprise”, following “Education training for public service workers and public institutes) and higher education (university, post graduate, college and junior college)” in the order.

When observing the ready-made content of contents supplied by content vendor, it will be as Figure 1-7. The types of ready-made content supplied by the vendor

are mostly “IT computer (general)”, “IT computer (professional)”, “Business base (general)”,“Conventional wisdom (general)”, “Management control (professional)”, etc., and it can be observed that these products are general. For the order-made contents, many contents such as “Company product” and “In-house requirement”, etc. in addition to the aforementioned contents have been supplied.

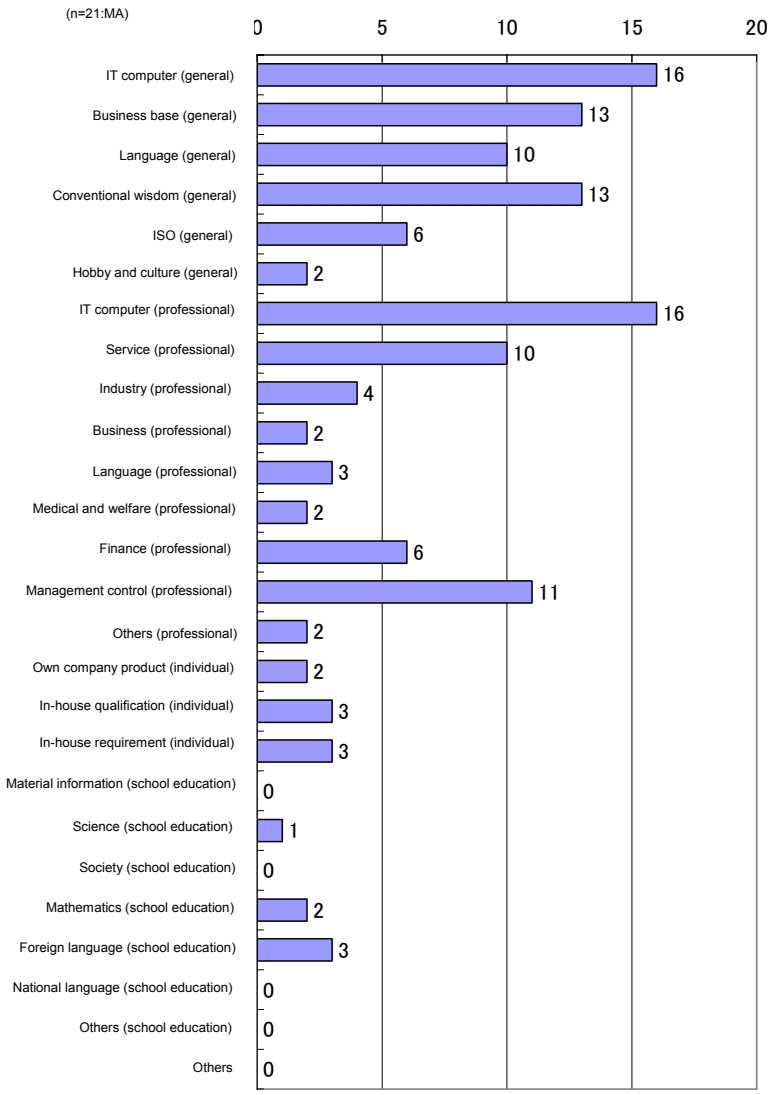

Figure 1-7　Type of ready-made contents supplied by vendor

4) Service vendor

Speaking of the types of service that the service vendors supply to the user, most of the services are “IT computer”, “Business base”, “Conventional wisdom” and others. While most concerned users are education in enterprise as the same as system and content (70.4%).

5) Consulting vendor

Speaking of the concerned field of consulting work, the ratios of “IT-Computer”, “Conventional wisdom”, “Management control” and “In-house product” are high. Regarding of the types of service that consulting enterprise supplies to the user,

the major services are “Material preparation consulting” (47.6%) and “Educational coordination (19.0%), and “System architecture” that was plenty up to the last year has dropped to 9.5%. Concerning the concerned users, the ratios of “IT related manufacturing” and “Information service” are high.

6) Business development viewed from the vendor

The obstacles to e-learning business development viewed from vendors (multiple replies) are:

- Consensus regarding e-learning utilization cannot be obtained (52.8%)
- Users must bear educational content preparation time, etc., and
- Educational effect of service to be supplied cannot be exhibited

While, the sales points (multiple replies) are possible when vendor sells are as follows:

- Time and spatial restrictions of learners can be reduced (72.3%), and
- It can be combined with the conventional training (assembly training) (70.2%) (Refer to Figure 1-8).

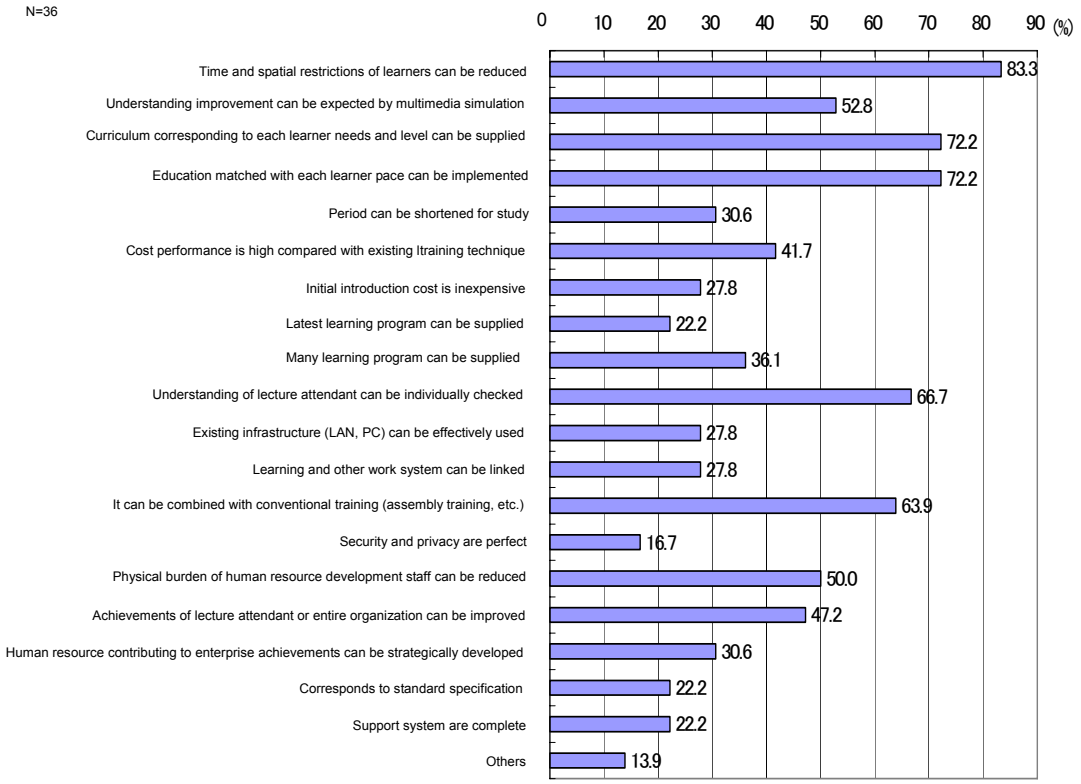

Figure 1-8 Sales point of e-Learning selling

Furthermore, The important items (multiple replies are possible) that vendor thinks for future business development are:

- Curriculum corresponding to each learner needs and level can be supplied (58.3%),

▪ Education matched with learning pace of each learner can be implemented (58.3), and
▪ Improvement of understanding can be supplied with multimedia simulation (55.6%).

1.6.4 Case study interview

Through the case study interview, the factors of e-learning application promotion (success) were summarized. The feature factors are as follows:

1) Enterprise

▪ The e-Learning system developed and conducted in each enterprise is expanded up to group companies and clients and is used for early resolution of own new product,
▪ Educational institute that integrates entire group companies (overseas subsidiary included) is established, and is extended from unofficial personnel education to line manager and entire company educations (due annual periodic lecture attendance), and
▪ It was started by proposal (stimulating by the case that receives higher income than the past after return to company by obtaining qualification during maternity leave in Europe and America) of 1 employee, and the e-Learning is used for training for reinstatement of in-house woman employee and for training for entire company.

2) University

▪ In the rough seas such as birth rate drop and independence administrative institution, each university is struggling to survive, and making a great effort in differentiation and the making of an attractive university. The e-learning is used as complement of one of solution techniques and interview lessons,
▪ It was started from spontaneous research of teacher who is interested in the e-Learning in order to develop own system, and lessons for self-teaching education of many foreign languages are complemented using the e-Learning,
▪ The e-Learning chair in university has been supplied to other universities including colleges and overseas (Quota interchange is gradually progressing), and
▪ The existing university work system makes the e-learning system cooperated seamlessly, and the IT conversion of general universities has been realized.

1.7 Summery

With the following topics in the background, the e-learning in our country has infiltrated steadily into the society. In this surveillance, the e-Learning introduction ratios in enterprises with more than 5,000 employees have especially reached 86.1%, and the e-learning has been effectively used for employee education including related companies.

1) The e-learning market has entirely and steadily expanded, and the degree of acknowledgment has become highly established. The entries into new fields and new services are also increasing.
2) In enterprises, the e-Learning has been used for all-around education to all employees who are represented by keywords such as privacy information protection, compliance, security, business manners and sexual harassment as an optimum method. A general introduction and application of the seamless cooperation architecture, etc. between

the personnel information system and the e-learning system, is also gradually increasing. Due to the application methods that removed barrier between training and business such as business support system (EPSS) introduction and applicable/strategic diversified business filed of CCM and CRM are showing an increase, however application examples are still small when viewed from the entire results.

3) At universities, in correspondence to the environmental changes such as the transformation into independent administrative institutions and competitive intensification of the declining of birth rate, they are not only restricted to inside facilities but education institutes promoting distance-learning targeting members of the society are also increasing using the e-Learning for their technique.

Concerning the application method of e-learning, besides distance-learning, the blending of the assembly education support system and the supplemental education is a main stream. On the other hand, many Internet universities and postgraduate schools which can acquire most of quotas with the e-Learning have emerged. As a general tendency, e-Learning introduction at undergraduate school and whole college quotas has progressed from their experimental applications, however as for the propulsion system for operation, it is not strong enough compared with Europe and America, and expansion is therefore necessary in future. While with the cooperation of clerical system of the existing business and the e-Learning system, advanced universities that assure the efficient use of the whole campus are also increasing.

What can be anticipated from this surveillance is that the e-Learning market size of 553 hundred million yen in 2006 will be expanding to 1,214 hundred million yen in 2010 which is approximately the double. (Refer to Figure 1-9)

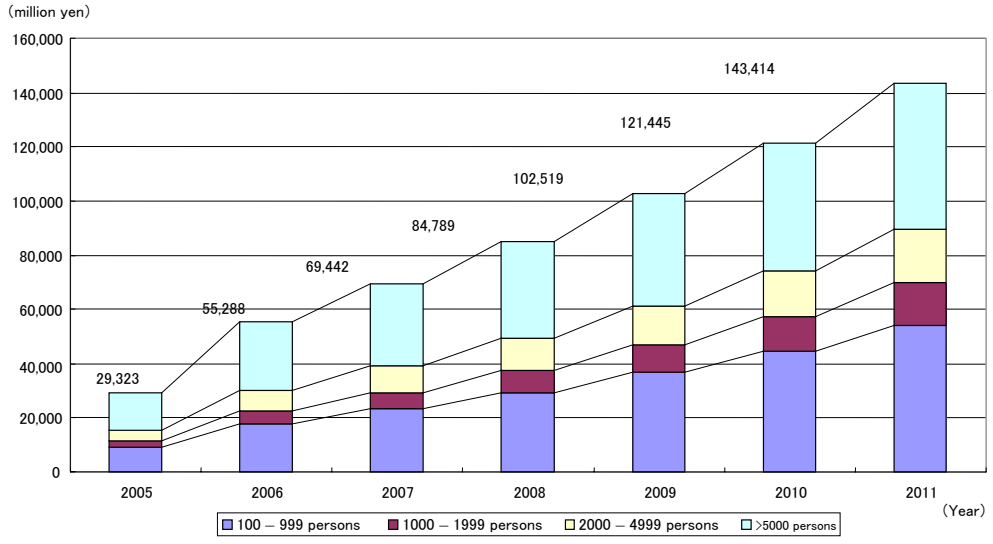

Figure 1-9 Estimated results of education e-Learning market size within enterprises by enterprise scale