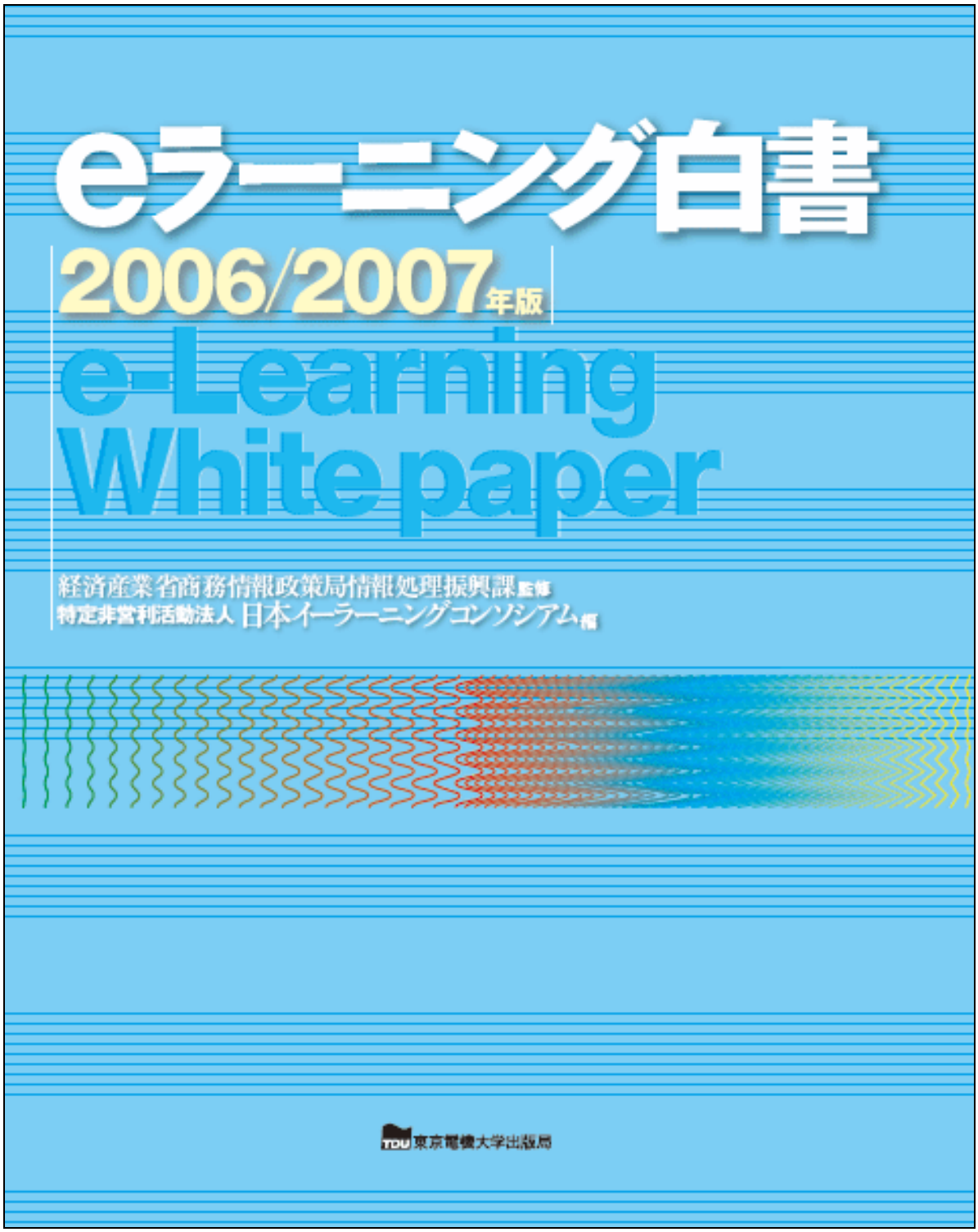


e-Learning White paper 2006/2007 English Version

(e-Learning Consortium Japan)

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# Preface

This paper was the translation of “Part I Outline” summarized “Part II Specifics” of “2006/2007 e-Learning White Paper” (Japanese version)”

Section 1 describes the important points in the writing of the “e-Learning White Paper 2006/2007”, as well as its overall structure. Section 2 presents the definition and understanding of e-Learning, and sections 3 through 7 introduce the essences from chapters 1 through 5 of ”Part II Specifics”.

# 1. Viewpoint of [e-Learning White Paper 2006/2007]

## 1.1 Important item of white paper

The [e-Learning white paper] has been 6th years this time since first issue in May 2001. In the e-Learning white paper for the first 4 years, elementary/secondary education, lifetime education and education in enterprise have been widely taken up and have been positioned during these periods of time as basic materials for e-Learning in Japan.

Since it is said that propagation of e-Learning in Japan would be started around the year of 2000, it can be said that the e-Learning white paper has been watching birth and development of Japanese e-Learning from the beginning.

In [e-Learning white paper 2005/2006] that is the last edition, first 5 years and 5 years thereafter were positioned as [Dawning period] and [Development period] of e-Learning respectively. This e-Learning white paper is for the second year of the [Development period], and is especially and continuously focusing with [Education in enterprise] and [Higher education] as the important fields of e-Learning in Japan same as the last edition.

While the e-Learning is gradually penetrating into each educational field and area, it is said that maximum scale will be the education in enterprise. Among intensification of economic globalization and competition between enterprises, it is also said that superior human resource development will be No. 1 condition for survival. Such as this, since role for e-Learning is becoming large, it can be said to be natural that the e-Learning has been aggressively used. Furthermore, trial use of e-Learning system is also increasing with directly linked to execution support of daily works by cooperating with various in-house systems beyond frame of simple education technique in enterprises, and a symptom that the e-Learning plays an important role from partial human strategy to IT strategy and entire strategy has been observed.

While, propagation of the e-Learning is rapidly progressing in higher education field that faces with large changes such as child reduction and independent administrative organization of national universities. From way back, universities have performed experimental session used the e-Learning system, but large scale and continuous sessions were limited. However, due to change of social environment, universities have true revolution age, and have started various challenge never experienced in the past. Among them, it is expected that the e-Learning makes it useful for improvement of conventional session quality, or plays a large role as the method that obtains new social student, and universities who proceed a large scale introduction are rapidly increasing. This white paper is also specially taking movement up at professional postgraduate school.

Furthermore, for current prospect of “BtoC” market that recent market growth has been truly expected, questionnaire result for private has been mainly taken up. Among them, mobile e-Learning that is starting by progress of the ubiquitous/mobile technologies has been also referred to.

The number of cases and kinds of concrete introduction and usage cases of the e-Learning that has been sharply expanded from the last edition and has been becoming new important feature of the e-Learning white paper, are also increasing. As clearly shown in various questionnaire survey results, information needs regarding concrete introduction cases and effective usages for propagation promotion of the e-Learning, are extremely high. Due to this, many and various practical cases that business type of enterprise, institute type , introduction purpose and introduction approach are different, are stated. These various cases are summarized in the part III.

The [e-Learning white paper 2006/2007] has focused on the [Education in enterprise] and [Higher education] that are 2 major fields of e-Learning introduction and usage in Japan, following to the last edition feature, and many introduction cases such as entire trend, current feature, outstanding issue and new movement are explained. Furthermore, prospect of the “BtoC” market and possibility of ubiquitous/mobile technology are also taken up. Thus, a writer will comprehensively explain current status and prospect of the e-Learning in Japan.

## 1.2 Booklet constitution

The white paper was classified into every each diversified aspect on the e-Learning, and stated in the part Ⅰ with latest survey result and analysis included. An entire constitution is as shown in Figure 1-1.

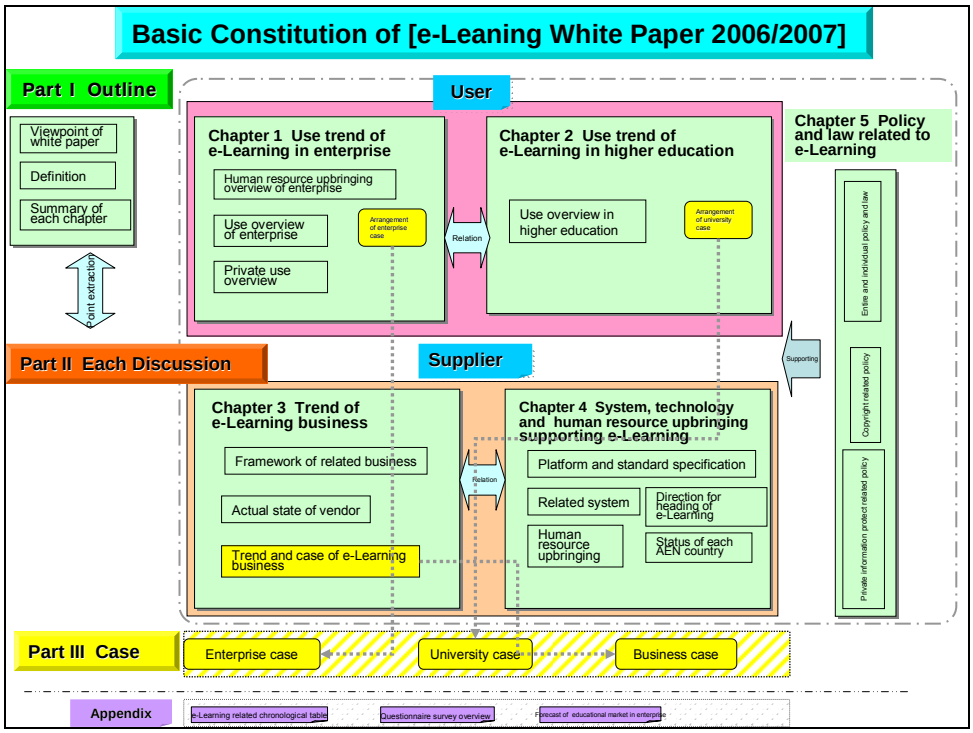



Figure 1-1 Basic constitution of [e-Learning white paper 2006/2007]

The entire constitution is mainly classified into [Part Ⅰ Outline], [Part Ⅱ Specifics], [Part Ⅲ Case] and [and [Appendix]. These overviews are explained in the following.

### 1.2.1 [Part Ⅰ Outline]

The [Part Ⅰ Outline] explains the basic constitution of the white paper, and describes important items. Since constitution of conventional white paper has been largely modified, this explains the [Target] and [Reading method]. In the next,

definition and understanding of the e-Learning have been taken up. In addition to the e-Learning of synchronous and asynchronous models, mobile learning used mobile terminal and blended learning that combined most assemble education and various e-Learning as actual usage style, were simply summarized for assisting readers understanding. Then, summaries of chapters 1 – 5 have been listed. Moreover, assumption for the enterprise education market scale of the e-Learning is also described.

### 1.2.2 [Part Ⅱ Specifics]

The [part Ⅱ Specifics] is constitution of chapters 1 through 5, and comprehensively handles an important point that searches current status and prospect of the e-Learning. The [Part Ⅱ Specifics] mainly consists of 3 parts.

[1] [Chapter 1] and [Chapter 2] that handle user trend of the e-Learning

The chapters 1 and 2 mainly handle user trend of the e-Learning.

The [Chapter 1 e-Learning trend in enterprise] arranges entire trend of the e-Learning in the education in enterprise based upon various questionnaire results and various reference information. In order to especially search an entire trends of education in enterprise, 2 kinds of survey result of [User survey (enterprise and private) of e-Learning] originally performed are introduced. Furthermore, usage trend of the e-Learning in enterprise and social members with [Enterprise case] briefly observed, can be grasped.

In the next, the [Chapter 2 e-Learning usage trend in higher education] arranges the e-Learning trend in higher education based upon various survey results. Furthermore, usage trend of the e-Learning in the higher education is taken up with [University cases] referred to from university to post graduate school and professional post graduate school.

[2] [Chapter 3] and [Chapter 4] that handle supplier trend of the e-Learning

The chapters 3 and 4 mainly handle supplier trend of the e-Learning.

The [Chapter 3 e-Learning business trend] arranges framework of e-Learning related business. In the next, in order to grasp the e-Learning business trend, questionnaire survey results of the [e-Learning business survey] originally performed for e-Learning vendors have been mainly introduced. Furthermore, the e-Learning business trend have been searched by briefly observing the [Business case] together with by arranging current feature of the e-Learning business.

The [Chapter 4 System, technology and human resource upbringing supporting e-Learning] handles platform and standard specification that are foundation for the e-Learning. Correspondence status of the standard specification has arranged with Japan and Asian countries matched. The next explains cooperation status with other systems located nearby in the case LMS and others are viewed from the e-Learning system, and an resource of important human upbringing for forecasting future e-Learning propagation has been taken up. Here, challenge example of e-Learning related human resource upbringing

in Japan has been also introduced. Furthermore, the e-Learning status in Asian countries has been also summarized together with standardization trend.

[３] Policy and law that affect to both user an supplier are handled [Chapter 5]

The chapter 5 takes up policy and law related to the e-Learning.

Chapters 1 through 4 concern user and supplier related to the e-Learning, and suppose this is considered as [Internal factor] of e-Learning execution, the chapter 5 can be positioned to be [External factor] that will directly and indirectly affect to entire concepts. Here widely picks up (1) social members and employee education, (2) public worker training, (3) higher education, (4) elementary education and (5) lifetime education as movement of e-Learning related policy by field. In the next, (6) copyright management policy and private information protection related policy that are important for e-Learning propagation, are also arranged.

### 1.2.3 [Part Ⅲ　Cases]

The [Part Ⅲ　Case] is mainly classified into [Enterprise case], [University case] and [Business case]. In the [Enterprise case], the cases have been selected so as to be able widely take up business type concerned, enterprise scale, approach, etc. In the [University case], the cases of undergraduate level, postgraduate school and professional postgraduate school have been taken up. While, in the [Business case], e-Learning usage case for the purpose of non-profit activity in addition to is also included.

### 1.2.4 [Appendix]

In closing, in the [Appendix] of the white paper, summaries of e-Learning related chronological table that was seemed to be important and of various original survey that was performed before the white paper was written, have been arranged.

As observed until now, the white paper has been arranged so as to easily understand entire relation, and has comprehensively taken up from e-Learning trend to concrete introduction and usage case. As one of reading manners, if any reader would like to grasp from concept to trend of the e-Learning, he or she can learn the overview by the [Part Ⅰ Outline]. Furthermore, if any reader would like to know various survey results, introduction and usage trend, a writer would like to recommend he or she to read from the interested chapter of the [Part Ⅱ Specifics]. Moreover, if any reader would like to know detailed concrete introduction and usage case, a writer would like to recommend he or she to look at the interested case of the [Part Ⅲ].

A writer would be happy if any reader can grasp concrete activity from the e-Learning in Japan and become a help for usage promotion in introduction of and business of own e-Learning with use of the [e-Learning white paper 2006/2007].

# 2. Definition and understanding of e-Learning

## 2.1 Definition of e-Learning

### 2.1.1 Diversified e-Learning form

There are various learning forms in the so called e-Learning. A typical e-Learning is the WBT (Web Based Training) that material distribution and testing are performed using an internet, and it is also called as asynchronous and on-demand forms (Figure 2-1).

While, a form that sessions performed by lecturer is distributed to remote areas in real time using satellite communication and television meeting system, is called as synchronous or real time method (Figure 2-2). Self-study by personal computer using CD-RO, etc. is sometime called as the e-Learning.

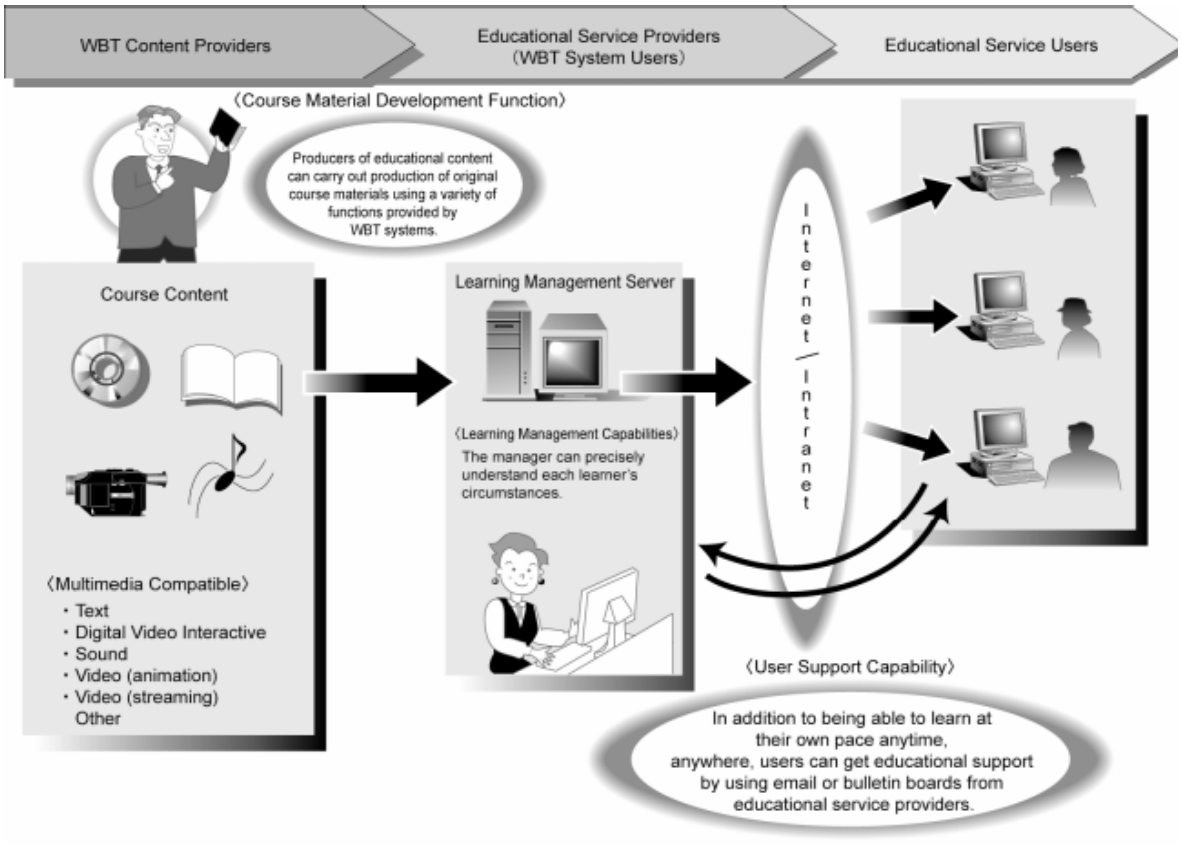



Figure 2-1 General WBT system

Figure 2-2　Remote session by satellite communication and television meeting system

Furthermore, currently, due to technological innovation and propagation of mobile terminal that is typical mobile phone, an opportunity used for learning is increasing. This is also called as mobile learning, and it can be deemed to be a form of the e-Learning. The mobile learning has an independent usage type that learner independently learns by mobile terminal and a link type that learner utilizes by linking to WBT system (Figure 2-3).

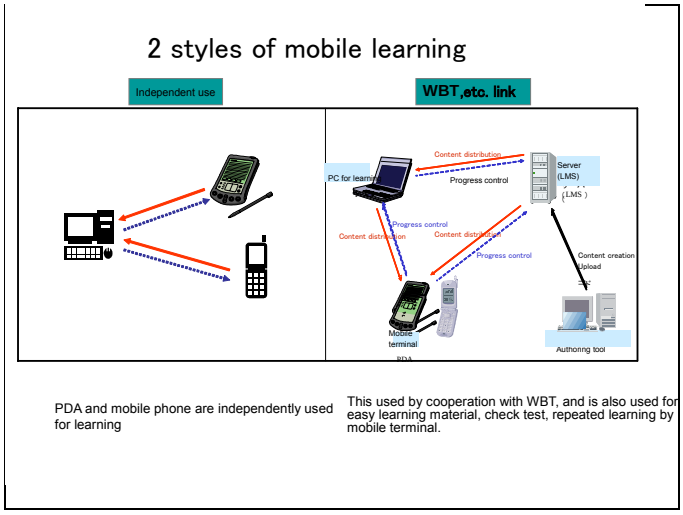



Figure 2-3　2 forms of mobile terminal using mobile learning

Technical innovation and diversification of such learning tools have progressed, and synchronous and asynchronous forms in product and service have been merged. For an example, conventional WBT is classified by the asynchronous forms, however usage form integrated television meeting function into the WBT system is increasing, and it is also called as the Live WBT. Such as this, linking and integration of the learning form used IT tool are progressing.

In actual learning site, a concept of [Blended Learning] linked and merged assemble learning is becoming general rather than use by e-Learning originality (Figure 2-4). That is to say, assemble training and e-Learning are optimally combined for heading to improvement of effect and efficiency of learning to consider for learners so as to be called as [Learner central doctrine], and supply of optimum learning form for learners has been intended.

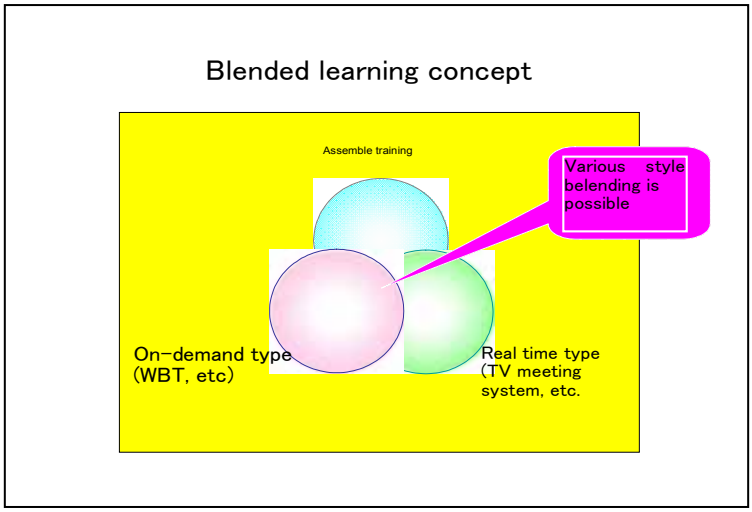


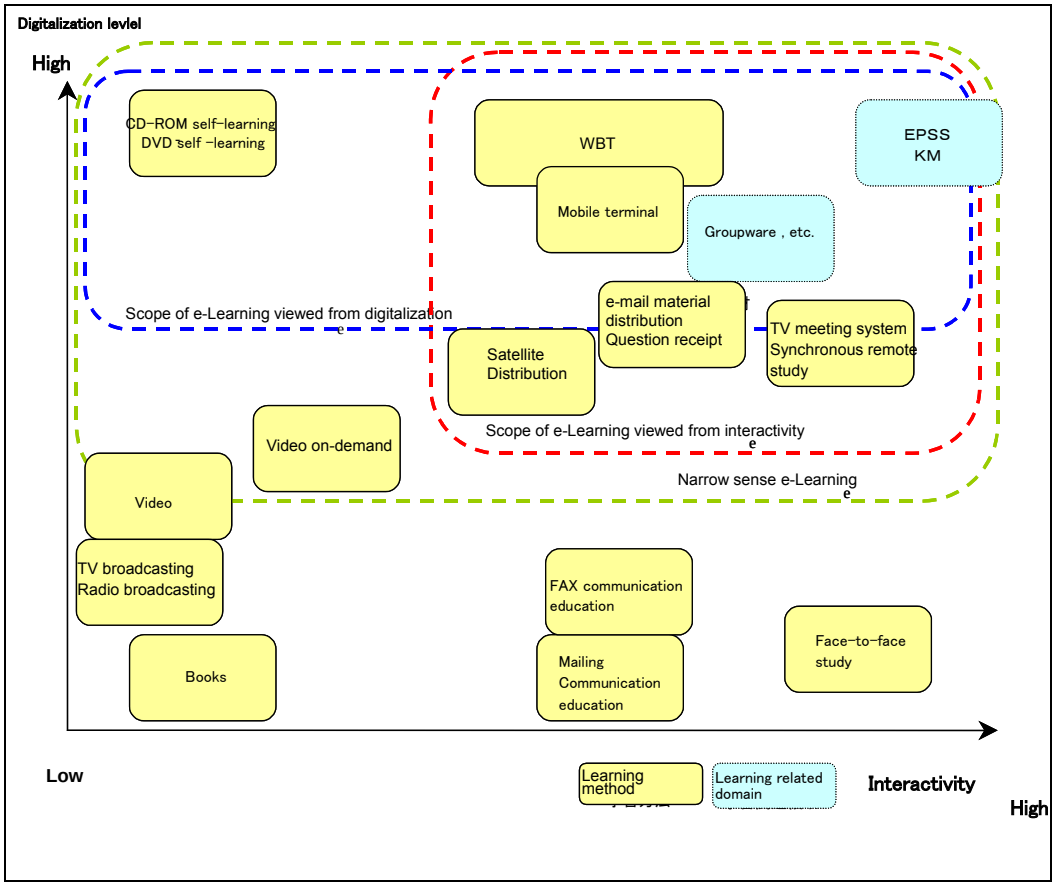

Figure 2-4　Concept of blended learning

### 2.1.2　Definition and classification of e-Learning

As initial character of “e” is shown in the e-Learning, it includes meaning of use of “electronic”, that is to say, computer and network, and learning form that was unable to realize up to date has become possible. However, the definition is not fixed, and there may be case of [Wide sense] that all manners used information technology are to be the e-Learning as well as there may be case of [Narrow sense] that assumed asynchronous and online forms represented by the WBT.

Until now, the e-Learning was frequently discussed by assuming the [Narrow sense] regarding online education represented by the WBT. However, e-Learning tool was technically renovated, and various functions have loaded on one tool, while as aforementioned, since the [Blended learning] linked and merged with assemble education has been becoming general, understanding of the [Wide sense] has been generally discussed.

In order to easily understand range and classification of the e-Learning, a writer is to use the concepts of [Digitalization] that is feature of the e-Learning and [Interactivity]. These 2 concepts are to be axis, and diversified learning method including the e-Learning and learning related area are to be arranged. Figure 2-5 has arranged the learning method and the learning related area by 2 axis of the [Digitalization] and the [Interactivity].




EPSS: Electronic Performance Support System
KM: Knowledge Management

Figure 2-5 Range and classification of e-Learning viewed from [Digitalization] and Interactivity]

The [Digitalization] mentioned here means electronic degree of contents used for materials. Such as online contents, it can be said that in the case materials have been perfectly electronic, it is high, while in the case materials of book and two-way that have not been electronic are used, it is low. Furthermore, in the form that lecturer distributes lecture by real time, digitalization ratio is low here since lecture is always necessary when performing study.

Meanwhile, the [Interactivity] means degree and possibility levels of communication bilateral between supplier of learning content (lecturer, etc.) and learner (trainee). Like as television and radio broadcasting, for the form that learning content is only supplied from one way, it can be said that the interactivity is extremely low. Moreover, CD-ROM and book that partial program can be skipped and paged are slightly high compared with broadcasting. And since the WBT and two-way learning have high possibility for interactive communication of lecturer and trainee, it can be said that the interactivity is high.

The WBT system that interactive communication can be technically done, is possible to raise the interactivity as necessary. In the case the WBT system is combined with the LMS

(Learning Management System) and direction is performed by tutor, higher interactivity can be obtained.

Like as the face-to-face learning, since the learning form that lecturer can freely proceed program by observing trainee reaction can raise learning freedom, it can be said that the interactivity can highly increase the learning method.

In Figure Ⅰ- 6, television and radio broadcasting and books are not included in range of [e-Learning of wide sense], however since it is actually and frequently used for a part of program of the e-Learning, there is the understanding manner of the [e-Learning of wide sense] included this.

Until now, we have observed various forms and features of the e-Learning, and the e-Learning definition in the white paper is arranged as follows:

[e-Learning means a subjective learning used communication network, etc. by the information technology. The contents are edited in accordance with learning purpose, and the interactivity is maintained between trainee and content supplier as necessary. This interactivity means that learner is given an opportunity to participate by his or her will, and suitable instruction is timely given to proceed learning from human or computer.]

# 3. Use trend of e-Learning in enterprise

## 3.1 Overview of human resource upbringing in enterprise

It has been approximately 6 years since the e-Learning was started to propagate from around 2000 in Japan, and introduction to enterprise and university has been steadily progressing.

As propelling factor of the progress, there are large economic and environmental changes. First of all, it is broadband propagation to entire society. Japan has been called as top leading broadband country, and progress of IT infrastructure such as ADSL, FTTH, PHS data communication with limitless use and wireless LAN network being installed in major cities, is remarkable. Moreover, due to population construction change and industrial construction change, educational contents requested by enterprise and university have been changed, and the e-Learning usage is expected as prescription.

### 3.1.1 Characteristic change regarding education in enterprise

As background to catch the trend of e-Learning in enterprise, it is necessary to understand feature and characteristic of human resource upbringing of Japanese enterprises. 2 large changes can be read from various survey results.

The first point is that bottom up of all employees from [Execution of centralized educational training lead by head office personnel division] observed in Japanese conventional enterprises, has been targeted as well as that review that execution at division and works who grasp educational training needs at site becomes possible, has been planned. The second point is that most responsibilities of ability development have been mainly taken by enterprise, however most responsibilities tend gradually shifting to employee individual. It is seemed to match with current social status that employee self-reliance is requested.

Such changes are considered to push the e-Learning application. For the former, the e-Learning is helpful for that bottom up and roundup education regarding information security measure and compliance of private information protection, etc. is quickly performed by responsibility of personnel division as well as for individual education needs measure of each division to penetrate into new product and service sites. While for the latter, since responsibility of ability development has shifted to individual, it is considered that the e-Learning is effective for self-reliance study.

Furthermore, in execution of ability development and human resource upbringing in enterprise, [Instructor is insufficient] and [Time is not enough to perform human resource upbringing] have been considered as large issues. The e-Learning application has high possibility to play an role against these issues because an insufficient instructors can be covered by supply of superior e-Learning materials, and an insufficient time for human resource upbringing can be tackled with efficient operation of the e-Learning. As measure of solution of human resource upbringing that enterprises suffer, it is assumed that propagation and penetration of the e-Learning are increasingly progressed.

### 3.1.2 Concept and effect measurement for human resource investment

With change of policy and concept for human resource upbringing in enterprise, it

shows trend of that the human resource upbringing is to be [Investment] and to make much of concrete effective measurement. However, in order to conduct an effective measurement, it is not easy to realize due to much time and cost. Technique to be expected for resolving this is the e-Learning. By introducing the e-Learning system, efficient performance and management of training become possible, and effective measurement becomes easy. In order to realize the effective measurement of the human resource investment, the e-Learning is considered to play an important role.

## 3.2 Current status of e-Learning in enterprise education

In this chapter, taking into consideration current status in enterprise education and e-Learning introduction trend, after basic items of introduction status and field, introduction purpose and important item, issue and operational problem at introduction, etc. are arranged as the current status of e-Learning in enterprise education, based upon the survey results of e-Learning user survey [Enterprise] (eLC 2005) originally conducted this time, consciousness management personal and trend and characteristic by tackling status, effective usage policy, etc. have been cleared.

### 3.2.1 e-Learning introduction status in enterprise

If an introduction ratio of e-Learning is observed by employee scale, trend shows that the larger enterprise scale, the higher introduction becomes, and it can be understood that correlation of enterprise and introduction is high (Figure 3-1 ). If observed by business type, [Information communication business of information service, etc.] is 76.5% highest, following [Service] 46.3%, [Manufacturer] 45.2%, [Constructor] 43.8% and [Wholesale and retailer sale] 42.9%, and difference in penetration status of the e-Learning between business types has been observed, and it can be understood that the introduction ratio of information communication business is remarkable (Figure 3 -2 ).

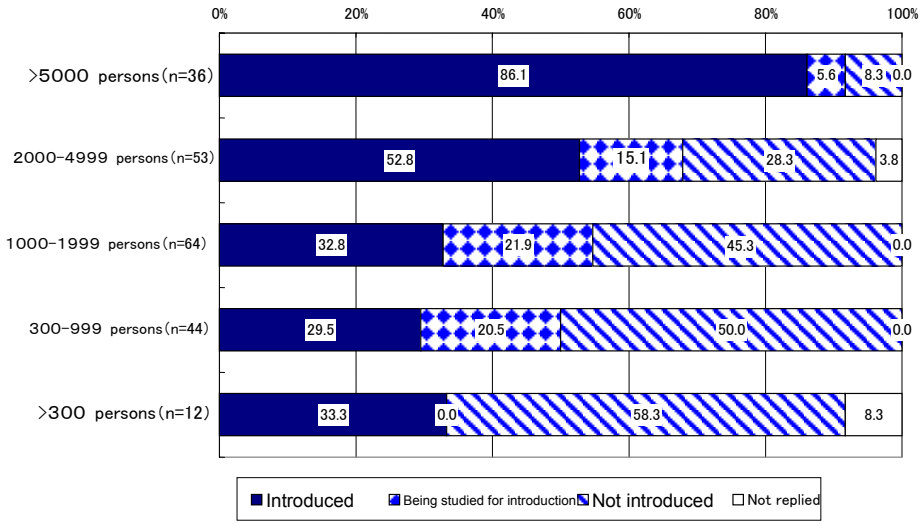


図 3 - 1　e-Learning introduction ratio by employee scale (SA)

Source: e-learning user survey [Enterprise] (eLC 2005)

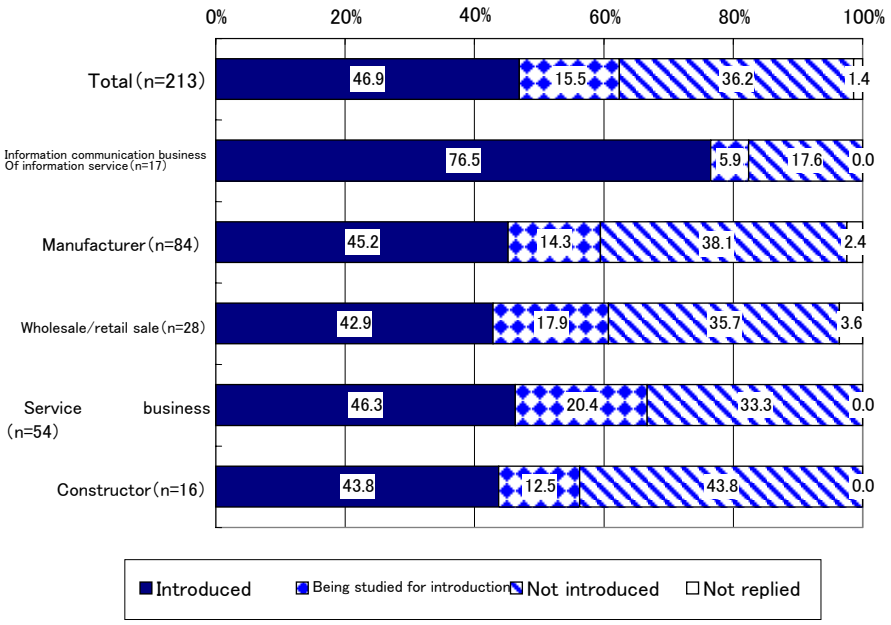



Figure 3-2　e-Learning introduction ratio by business type (SA)

Source: e-Learning user survey [Enterprise] (eLC 2005)

Furthermore, if proportion of e-Leaning cost occupied in total training costs (average enterprise reply) is observed, the proportion was 6.2% in 2005, and is increasing thereafter, and it is assumed to reach 11.1% in 2010 (Figure 3-3 ). The proportion of the e-Learning cost in each enterprise is steadily increasing.

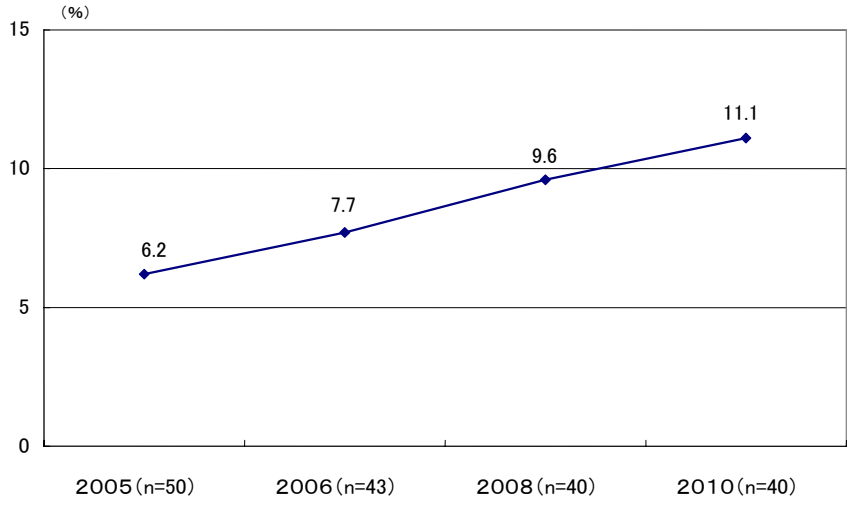



Figure 3-3　Proportion occupied by e-Learning among total training costs (average)

Source: e-Learning user survey [Enterprise] (eLC 2005)

### 3.2.2 e-Learning introduction status by entire companies and divisions

If training content and concerned division of e-Learning introduction enterprise are observed, [General purpose knowledge] of [Entire companies] is 75% highest, following [General purpose knowledge specialized in business type and job type], and main purpose is education of the general purpose knowledge at entire company base, however if observed by divisions, proportion of the [General purpose knowledge specialized in business type and job type] is also high, and it can be understood that the e-learning specialized in divisions is gradually penetrating (Figure 3 - 4 ).

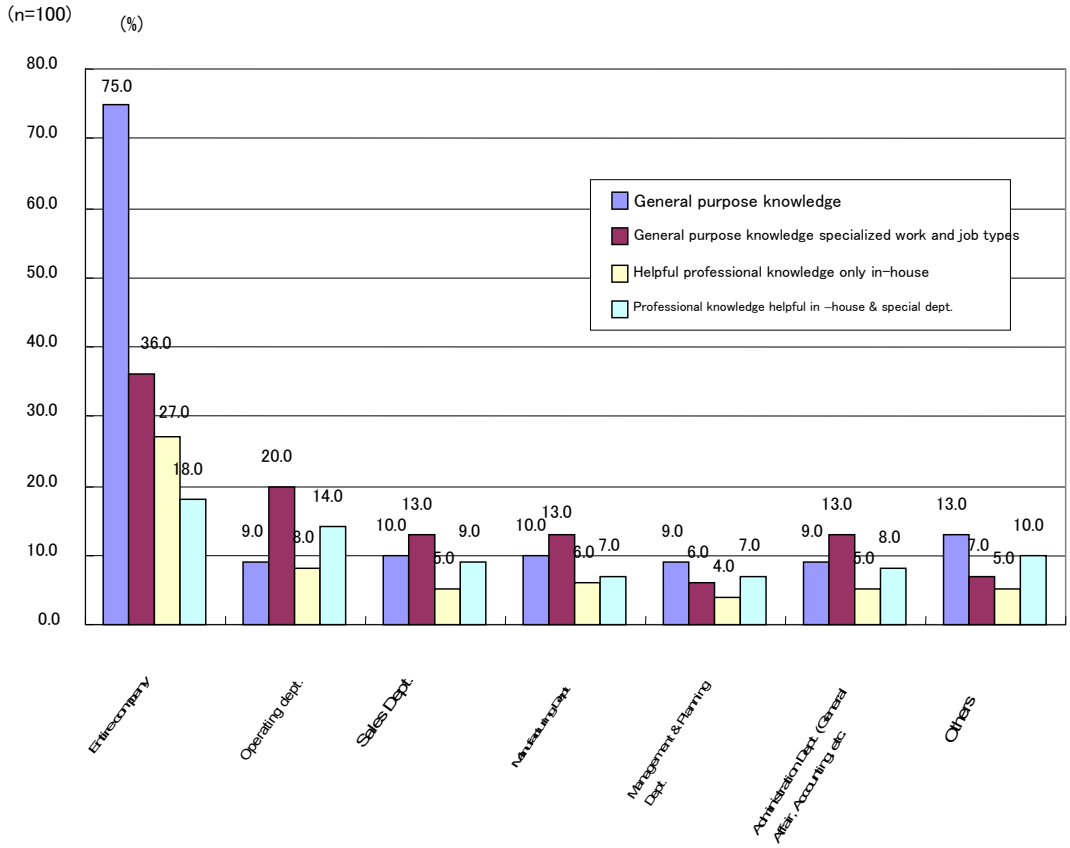



Figure 3-4 Training content and concerned division of e-Learning (e-Learning introduction enterprise) (MA)

Source: e-Learning user survey [Enterprise] (eLC 2005)

### 3.2.3 Introduction field of e-Learning

If field that the e-Learning is introduced is observed, [IT and computer] is 55.0% highest, following [Business (accounting, law, finance, etc.)] and [Social common ideas (business manner, sexual harassment prevention, etc.)] 43%. The desired field of e-Learning introduction in future tends to disperse. However, the fields with high volition even it is recognized to be low introduction effect are [Language], [Service], [Management and

administration], but further contrivance in these fields are sought in order to raise satisfaction of education (Figure 3-5 ).

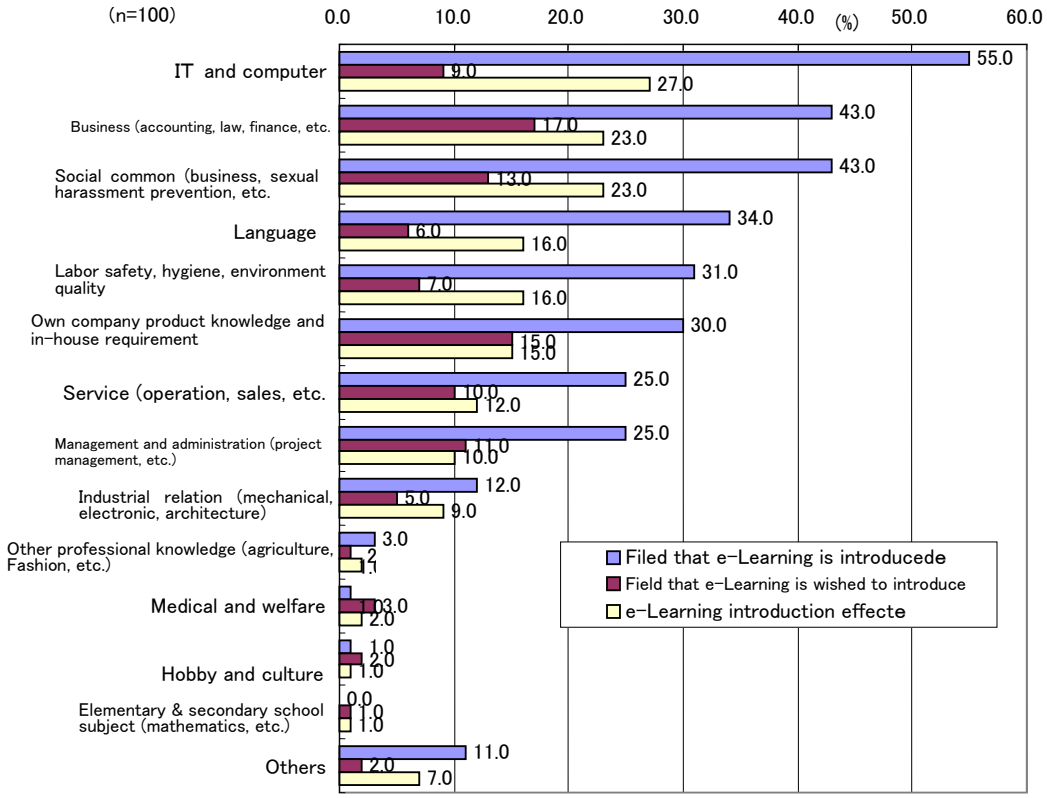



Figure 3-5 e-Learning introduction field, field that hopes to introduce in future and introduction effect (MA)

Source: e-Learning user survey [Enterprise] (eLC 2005)

### 3.2.4 Recognition of usage level of e-Learning

If the usage level of the e-Learning is observed, [Aggressively used than expected before introduction] is 20.0%, [As expected before introduction] is 53.0% and [Not used than expected before introduction] is 23.0%. It can be understood that the usage level is same as plan and strategy before introduction or more effect could be obtained before introduction (Figure 3-6 ).

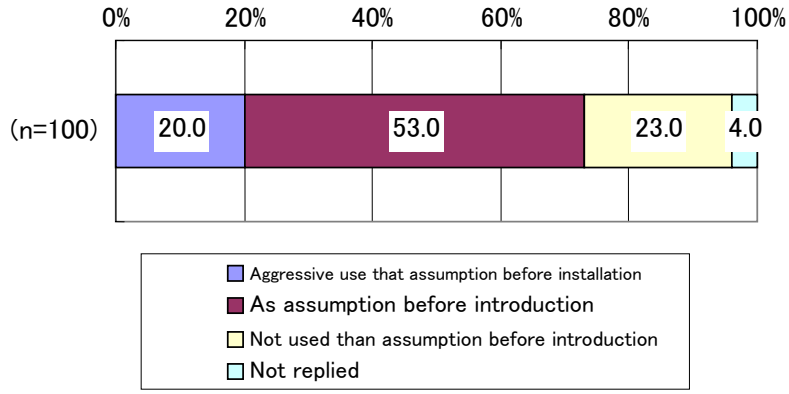



Figure 3-6　e-Learning usage level (SA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

### 3.2.5　Trainee ratio of e-Learning

If the trainee ratio of in-house e-Learning is observed, each company plans to increase training by the e-Learning, and an intention to expand introduction of the e-Learning in future is recognized (Figure 3-7).

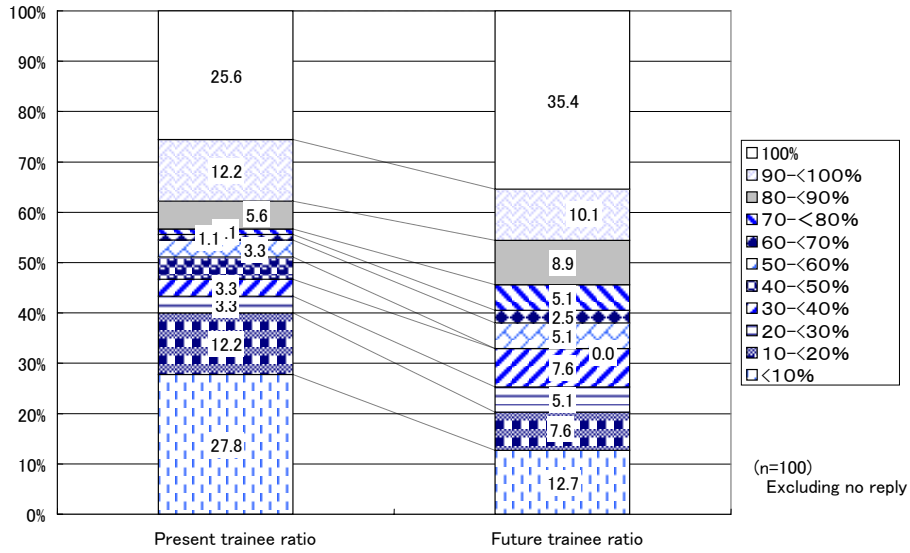



Figure 3-7　Trainee ratio of in-house e-Learning (present and future schedule) (SA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

### 3.2.6　Introduction purpose and important item of e-Learning

If the introduction purpose of e-Learning introduction enterprise is observed, it can be understood that [Training efficiency (time shortening, etc.)] and [Improvement of training ratio and completion ration of employee] are taken serious (Figure 3-8 ). Furthermore, if the important item at e-Learning introduction is observed, [Contents

met with training purpose can be selected], [Learning management, etc. by manager is easy], [High learning result can be expected], etc. are most, and it can be understood that flexibility to contents and easy learning management are made serious (Figure 3-9).

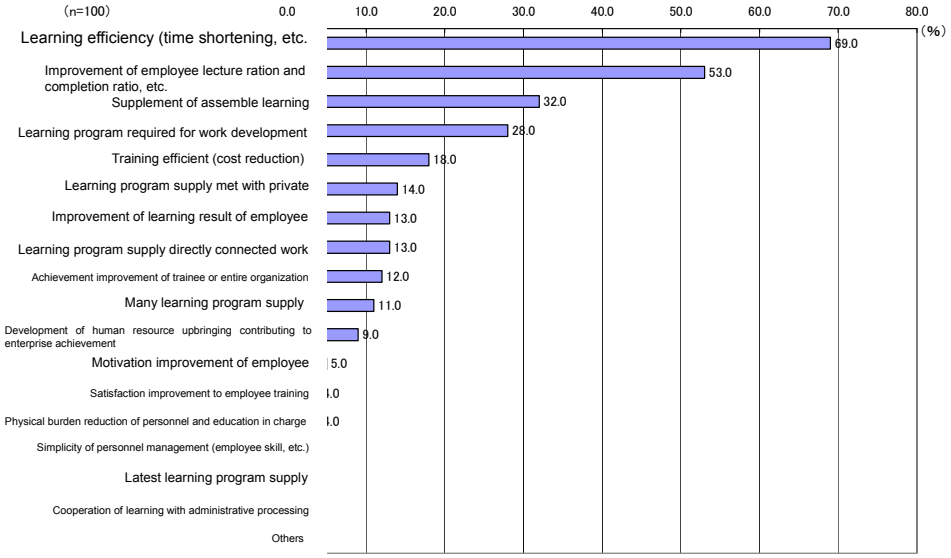



Figure 3-8　Purpose of e-Learning introduction (e-Learning introduction enterprise) (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

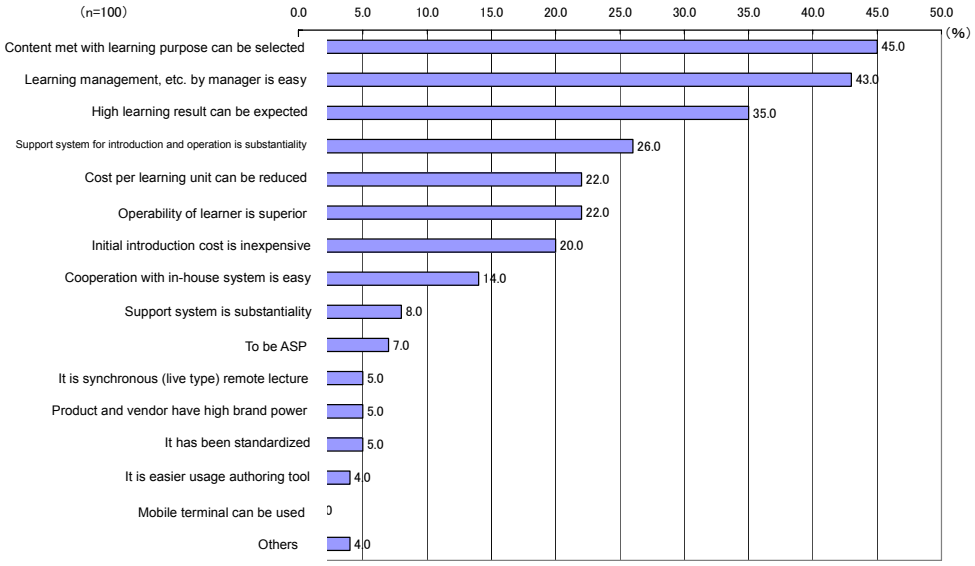



Figure 3-9　Important item at e-Learning introduction (e-Learning introduction enterprise) (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

### 3.2.7　Failure at introduction and issue at operation of e-Learning

If the failure at e-Learning introduction is observed, [Difficult to create contents],

[Understanding for meaning and necessity is insufficient], [Maintenance of high speed infrastructure is insufficient] are most in entire e-Leaning introduction enterprise (Figure 3-10). Furthermore, if problems at e-Learning operation are observed, [Educational contents met with training needs are insufficient], [Effect for introduction, etc. is difficult to understand], [Understanding for meaning and necessity is insufficient], etc. are most in e-Learning introduction enterprise (Figure 3-11). It shows that content development met with training needs is mandatory in future.

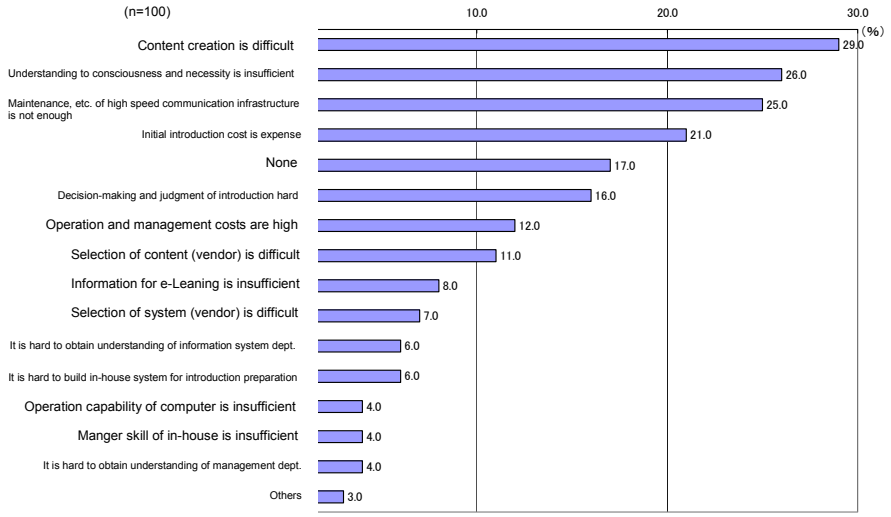



Figure 3-10 Failure at e-Learning introduction (e-Learning introduction enterprise) (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

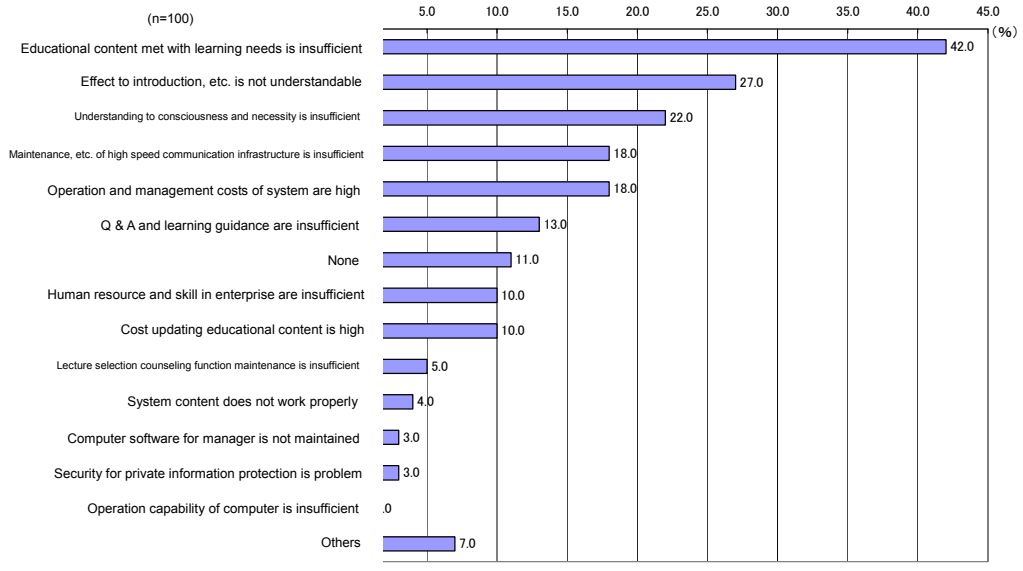



Figure 3-11 Problems at e-Learning operation (e-Learning introduction enterprise) (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

### 3.2.8 Possitiveness to e-Learning by management personnel and integration status and effectiveness to management strategy

In order to seek for feature arisen from difference of aggressiveness level of management personnel, when [Enterprise that management personnel is interested in e-Learning and is aggressively involved] is compared with [Enterprise that is interested in e-Learning but is not aggressive], the former compared with the latter has realized the effects of [Training efficiency (cost reduction)], [Employee learning result (improvement of score, etc.)], [Improvement of training ratio, etc. and increase of learning opportunity], [Supply of learning program linked to work], [Repletion of assemble training (preparation, review, etc.)], etc., and comprehensive evaluation has also become high (Figure 3-12).

Thus, management personnel aggressively involves in e-Learning introduction and integrates into personal strategy and IT strategy, so it can be understood that enterprise linked to management has realized the effect of e-Learning introduction.

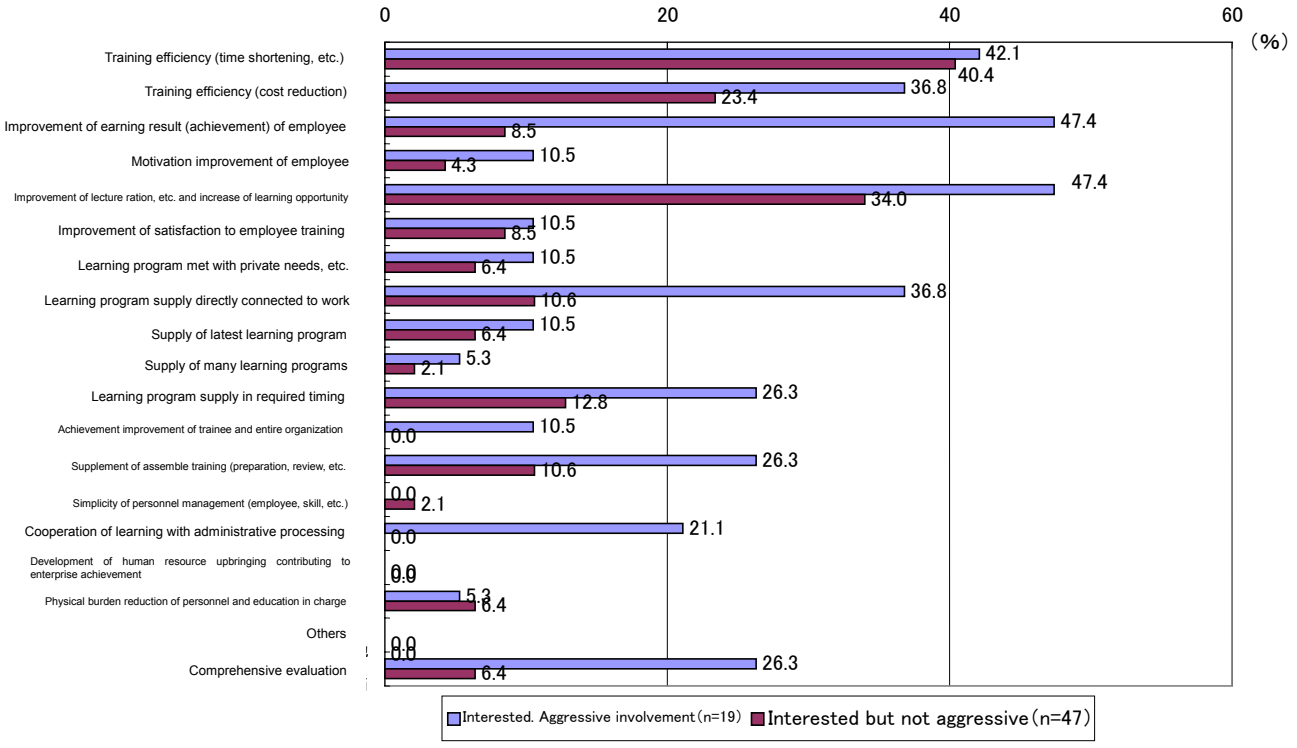



Figure 3-12 Aggressiveness to e-Learning by management personnel and e-Learning effect (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

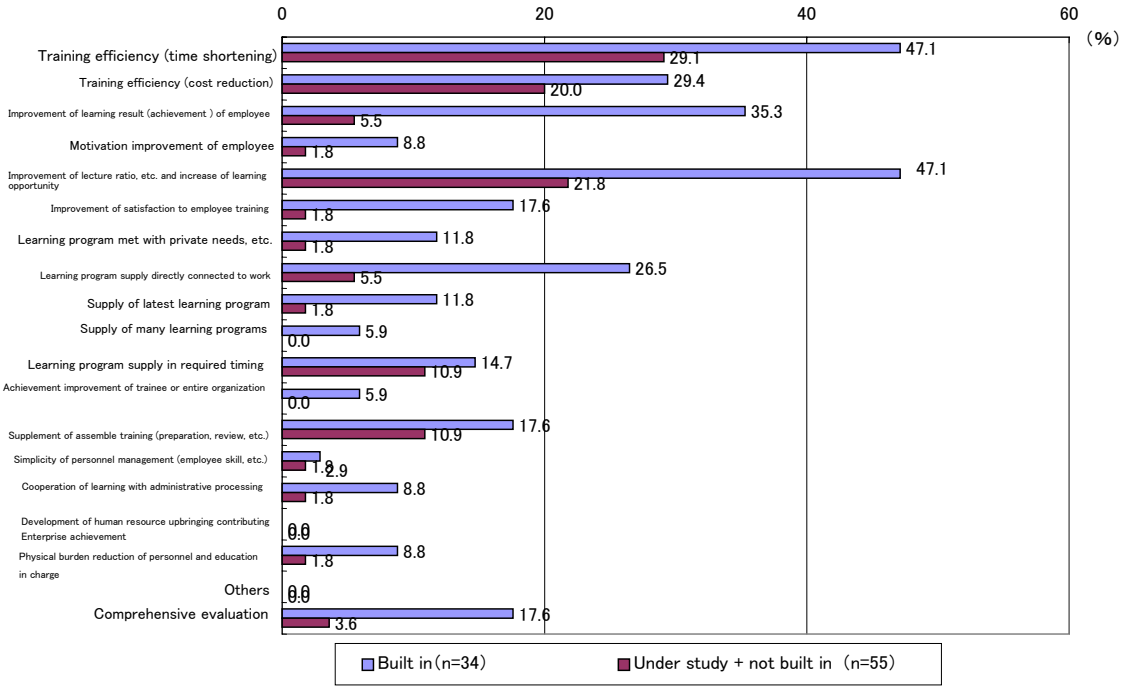



Figure 3-13 Integrated status into personal strategy of e-Learning and e-Learning effect (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

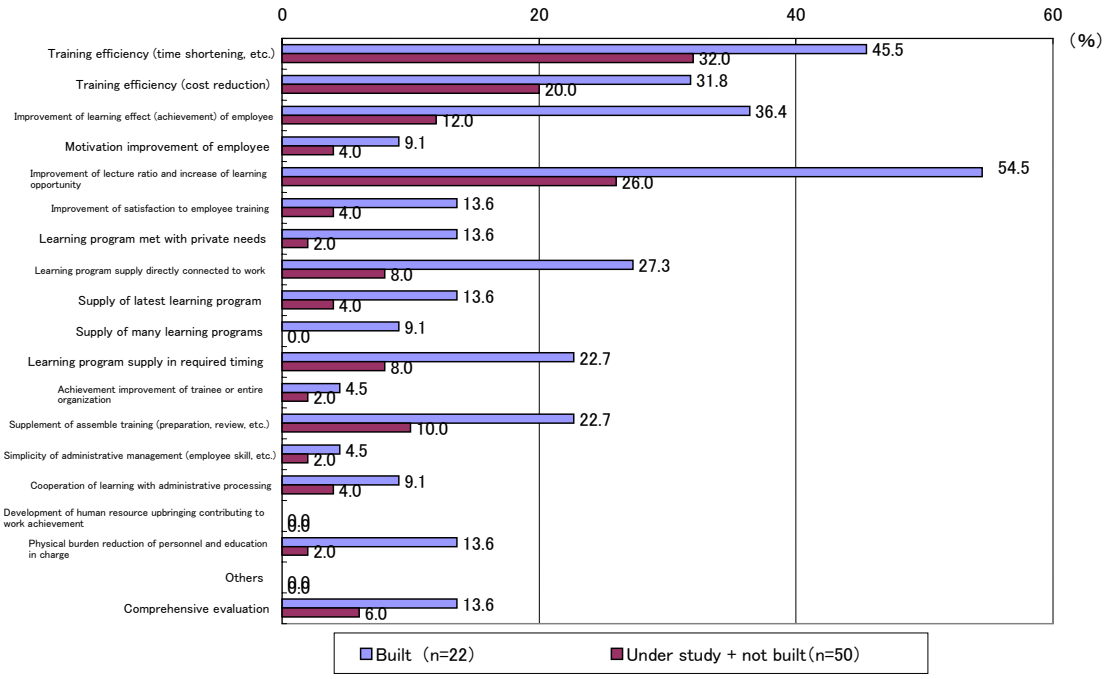
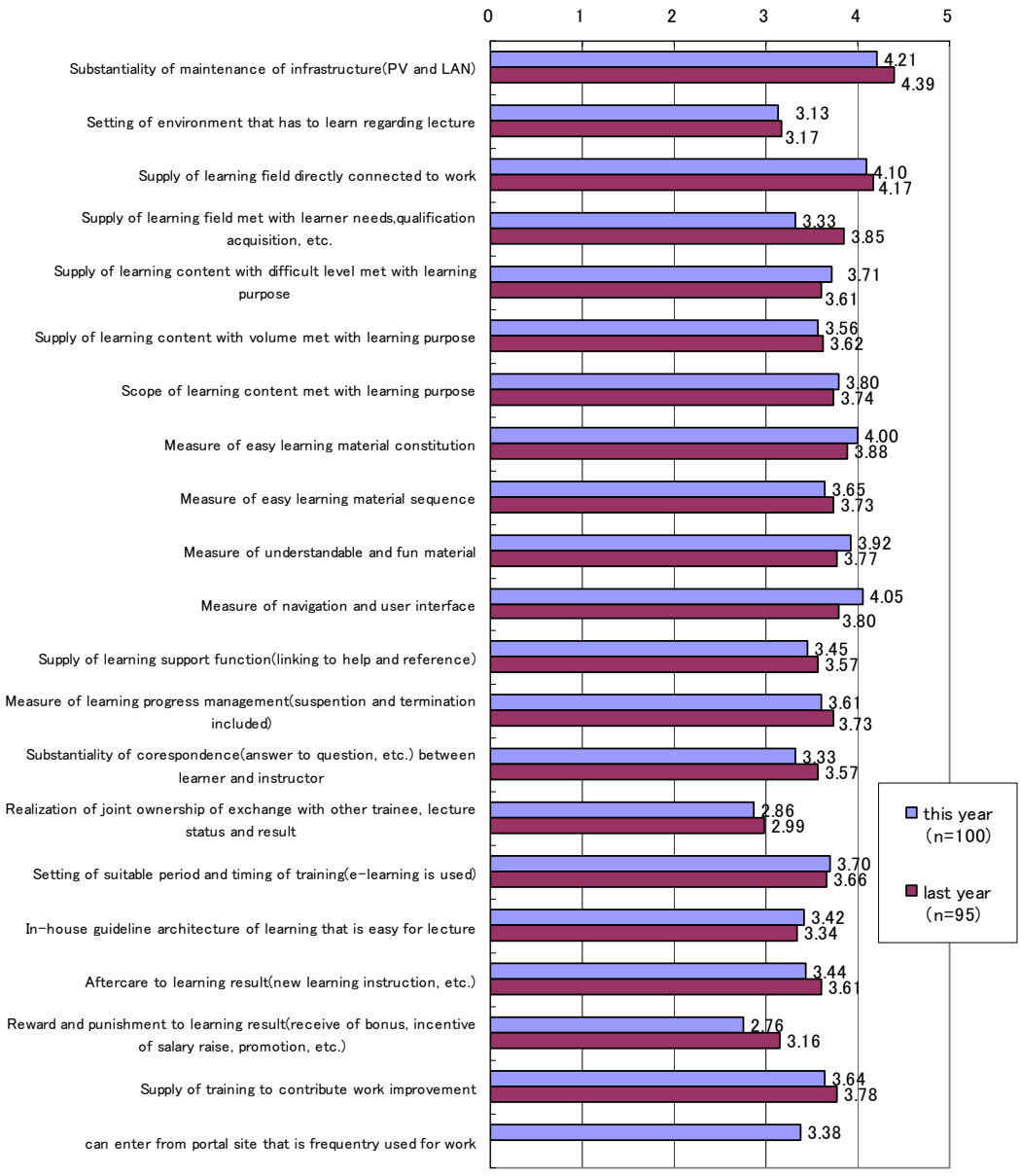



Figure 3-14 Integrated status into IT strategy of e-Learning and e- Learning effect (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005)

### 3.2.9 Effective usage plan of e-Learning

As for plan for effective use of e-Learning, an importance level of [Substantiality of maintenance of infrastructure (PC and LAN)], [Supply of learning field linked to work], [Contrivance of navigation and interface], [Contrivance of material constitution for easy learning], [Contrivance of intelligible and funny material], etc. has been becoming high, and it can be understood that more detailed contrivance has been made serious (Figure 3-15).




Note: Scored with summed average of important level 1 – 5.

Figure 3-15 Recognition of important level of plan for effective use of e-Learning (MA)

Source: e-Leaning user survey [Enterprise] (eLC 2005) and (eLC 2004)

## 3.3 e-Learning usage status of individual

Here, in order to seek for e-Learning use activity of social member (occupied personal) of the e-Learning, e-Learning introduction field and future introduction desired field/learning effect at organization belonged, satisfactory level used e-Learning, future introduction desire of e-Learning and e-Learning use status as private are to be summarized based upon the results of personal original questionnaire survey ([e-Learning user survey [private]]) (eLC 2005).

### 3.3.1 Overview of education in enterprise and e-Learning

[１] Training merit used e-Learning

As for the training merit used the e-Learning, [Time is free], [Place is free], [Learning can be repeatedly performed], etc. are increasing. Furthermore, it can be understood that private experienced person compared with company experienced person strongly recognizes actual merits such as [Learning program met with one's level can be taken], [Qualification may be obtained], etc (Figure 3-16).

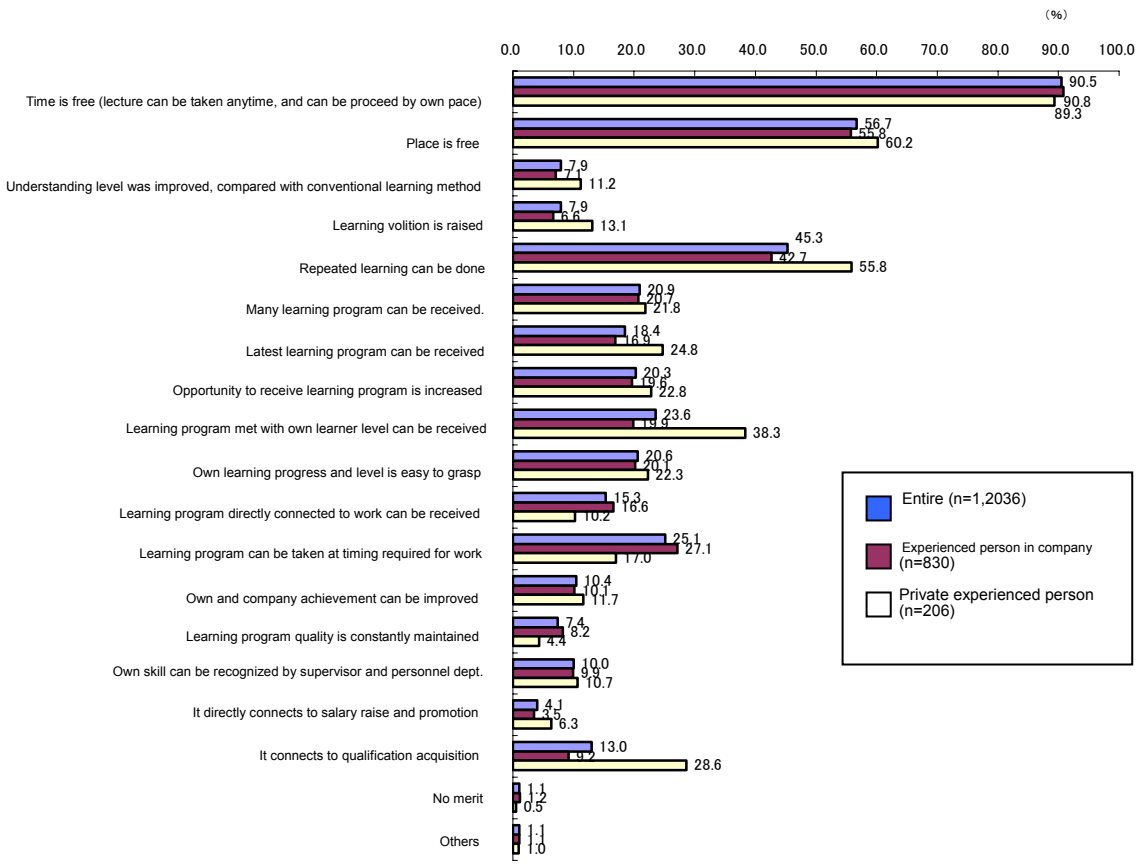



Figure 3-16 Training merit used e-Learning (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

[２] Training demerit used e-Learning

As for the training demerit used the e-Learning, [Maintenance of motivation of training continuation is difficult], [Since interactivity with lecturer and service superior does not exist, training results can not be recognized by others], etc. are increasing. Especially, it can be understood that private experienced person compared with company experienced person strongly feels the [Maintenance of motivation of training continuation is difficult] (Figure 3-17).

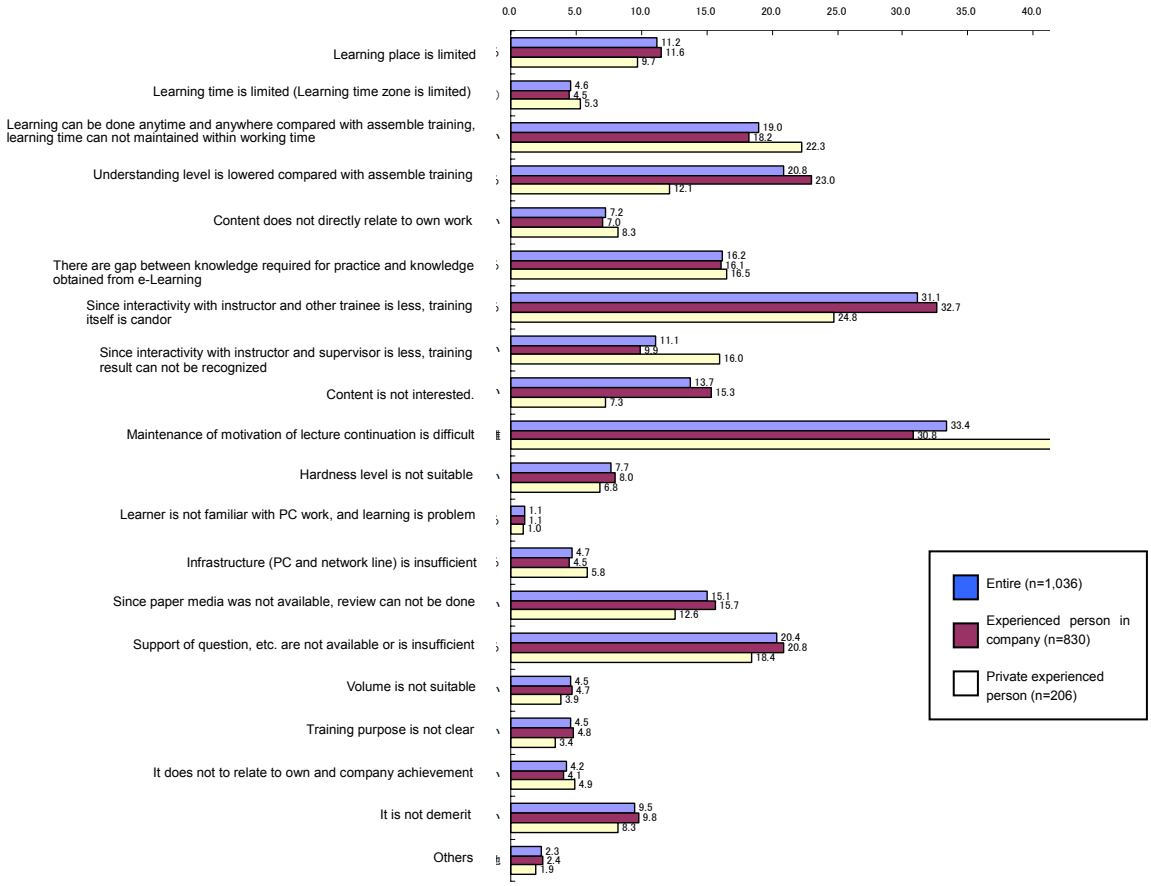



Figure 3-17　Training demerit used e-Learning (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

### 3.3.2　e-Learning usage status by experienced person in company

[１] Field that e-Learning has been introduced and field that e-Learning is hoped to introduce in future

The fields that e-Learning has been introduced are [IT and computer] 65.0%, [Social

common ideas (business manner, sexual harassment prevention, etc.)] 42.6%, [Labor safety, Hygiene, environment and quality (IOS9000/14000 included)] 31.5% in the order, and the fields that are hoping to introduce in future are [Language] 38.8%, [Accounting, law, finance, real estate, etc. ] 27.7% and [Hobby and coercion] 27.6% in the order (Figure 3-18).

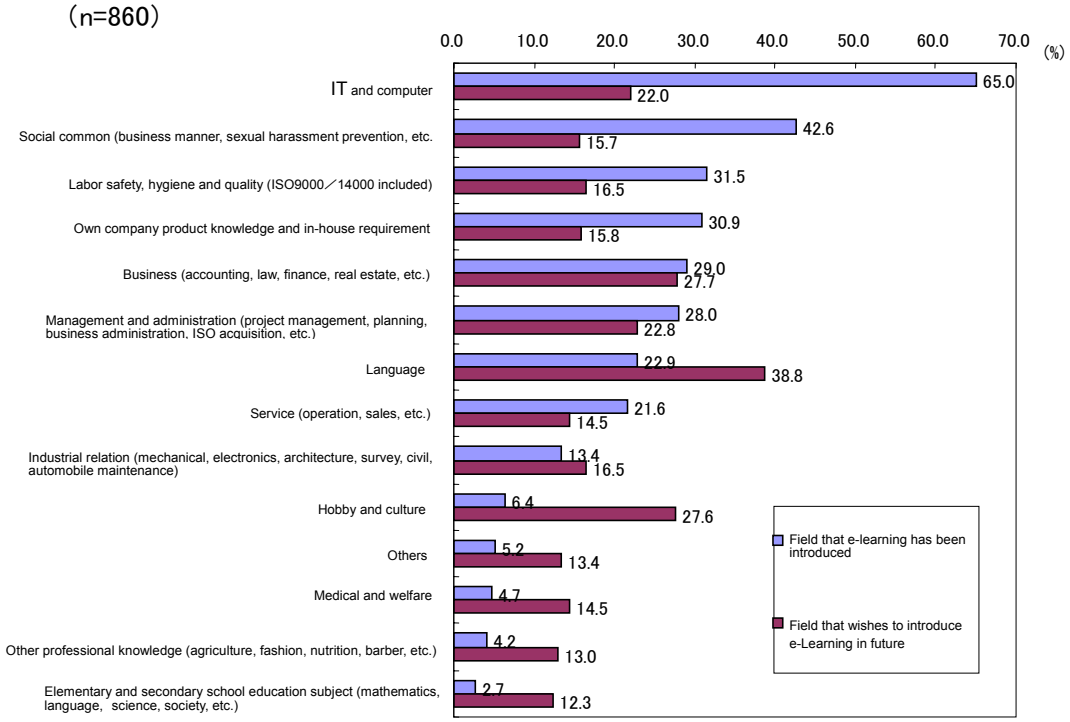



Figure 3-18　Fields that e-Learning has been introduced and fields that are hoping to introduce in future

Source: e-Leaning user survey [Private] (eLC 2005)

[２] Evaluation of learning effect by e-Learning

If the evaluation of learning effect by the e-Learning is observed, [A certain level effect is seen] is 69.0% highest, and approximately 70% considers to be effective (Figure 3-19).

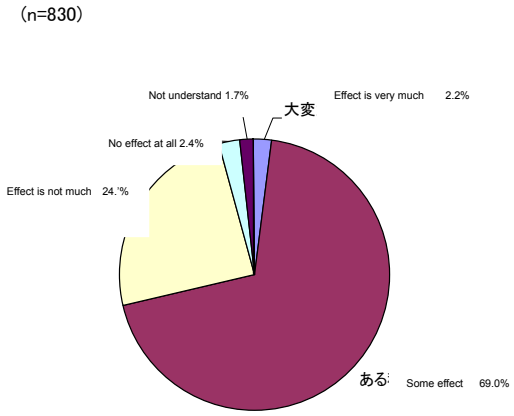



Figure 3-19　Evaluation of learning effect by e-Learning (SA)

Source: e-Leaning user survey [Private] (eLC 2005)

[３] Satisfaction level on in-house training

If the satisfaction level of in-house training is observed by training method, the satisfaction level of [e-Learning used web] compared with [Assembly and classroom type], [OJT], [Communication education] is comparatively high (Figure 3 -20　).

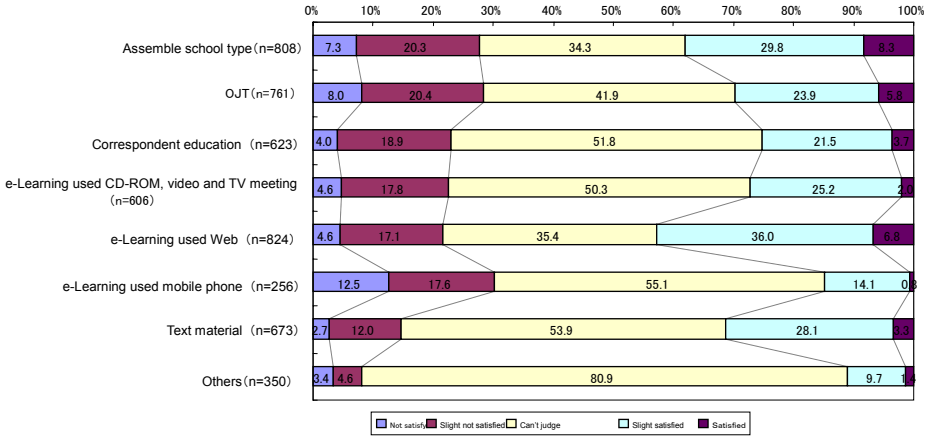



Figure 3-20　Satisfaction level on in-house training (SA)

Source: e-Leaning user survey [Private] (eLC 2005)

[4] Introduction desired status of training used e-Learning

If the introduction desired status of training used the e-Learning is observed, [It is not all

trainings but increase of proportion of training used e-Learning is desired] is 50.6% more than half, and it can be observed that introduction intention is high (Figure 3-21).

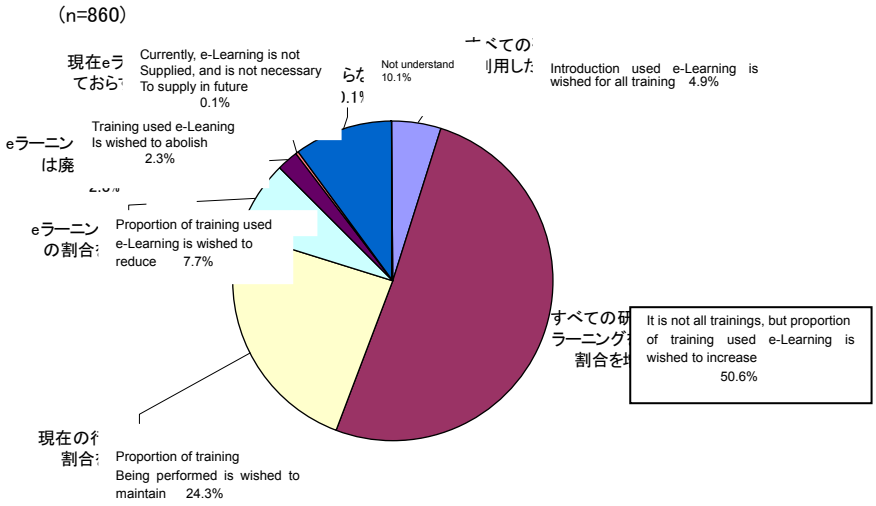



Figure 3-21 Introduction desired status of training used e-Learning (SA)

Source: e-Leaning user survey [Private] (eLC 2005)

### 3.3.3 e-Learning usage status by experienced person at individual level

[１] Reason of e-Learning usage other than training supplied by company

If the reason of the e-Learning usage other than training supplied by company is observed, [Time is free (can take lecture at desired time and can proceed by one's pace)] 85.4% and [Place is free] 57.9%, etc. are frequently heard. Especially, it can be understood that private experienced personal makes much of [Qualification may be obtained] (Figure 3-22).

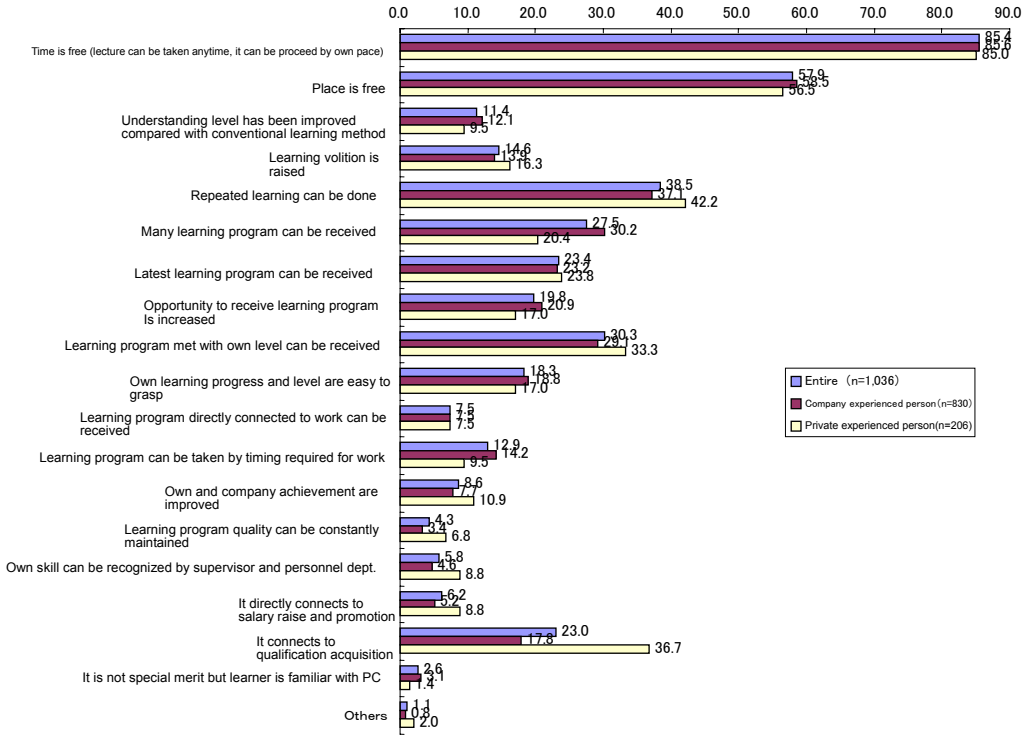



Figure 3-22　Reason of e-Learning usage other than training supplied by company (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

[2] Reason that e-Learning usage other than training supplied by company is not desired

Most of replies in company experienced personal are [Maintenance of motivation of learning continuation] 43.9% and [When compared with conventional learning method, understanding level drops] 30.4%, and it can be said that merit of learning method of the e-Learning acted contrarily as demerit. While, most of replies in private experienced personal are [Contents are petty] 38.5% and [Assistance to question, etc. are insufficient]. It can be understood that intention seeking for e-Learning slightly differs between company and private (Figure 3-23).

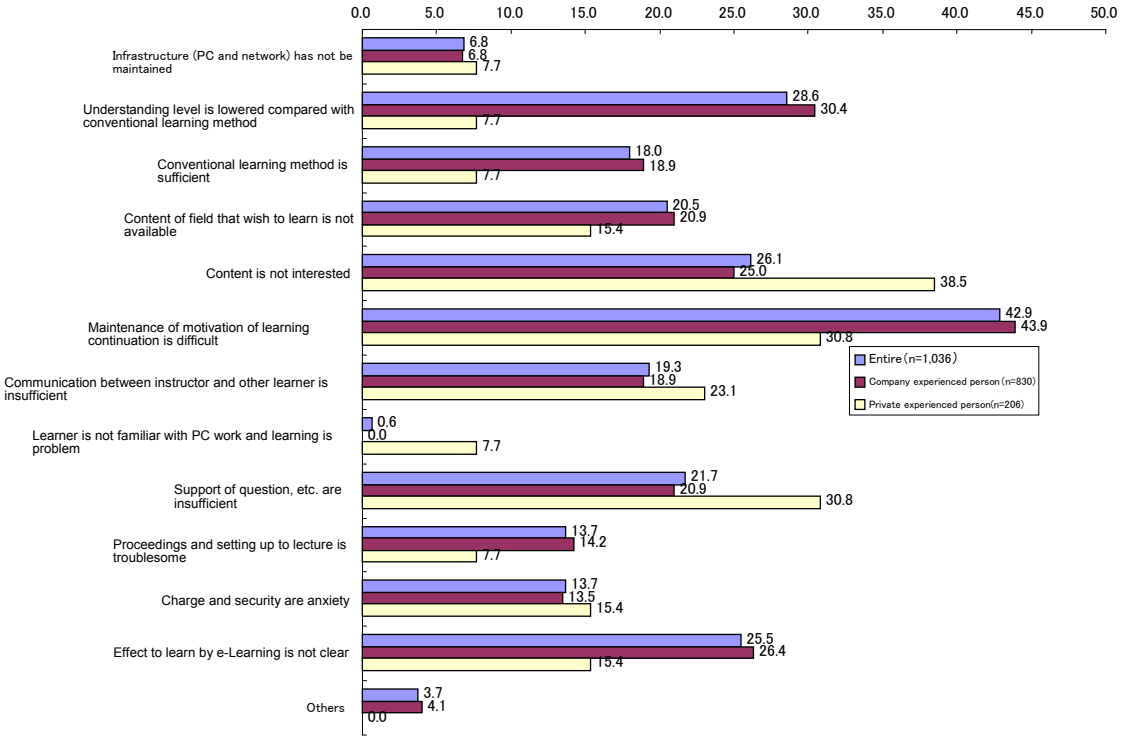



Figure 3-23　Reason that e-Learning usage other than training supplied by company is not desired (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

[３] e-Learning effect in case private took lecture

If the e-Learning effect in case private took lecture is observed, [A certain effect is seen] is 76.6% highest, and if it is combined with [It is very effective] 5.4%, it can be observed that more than 80% personnel recognize the effectiveness (Figure 3-24).

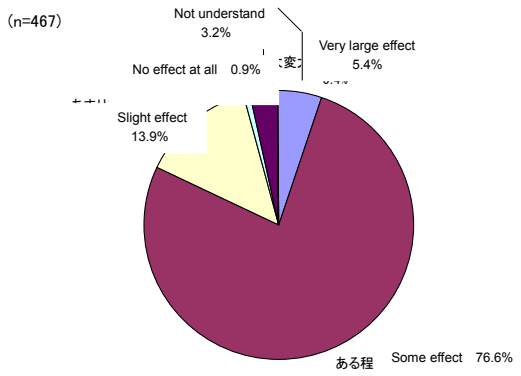



Figure 3-24　e-Learning effectiveness in case private took lecture (SA)

Source: e-Leaning user survey [Private] (eLC 2005)

### 3.3.4 Usage status of mobile learning

[1] Mobile learning usage field and future desired usage field

The fields that personnel who ever used the mobile learning are actually using, are [Language] 40.0%, [Business <accounting, law, finance, real estate, etc.>] 22.0% and [IT and computer] 20.0%, and the fields that desire to use in future are [Language] 26.0%, [Hobby and coercion] 20.0%, [Management and administration <project control, planning, business administration, ISO acquisition, etc.] 16.0% and [Medical and welfare] 16.0% (Figure 3-25).

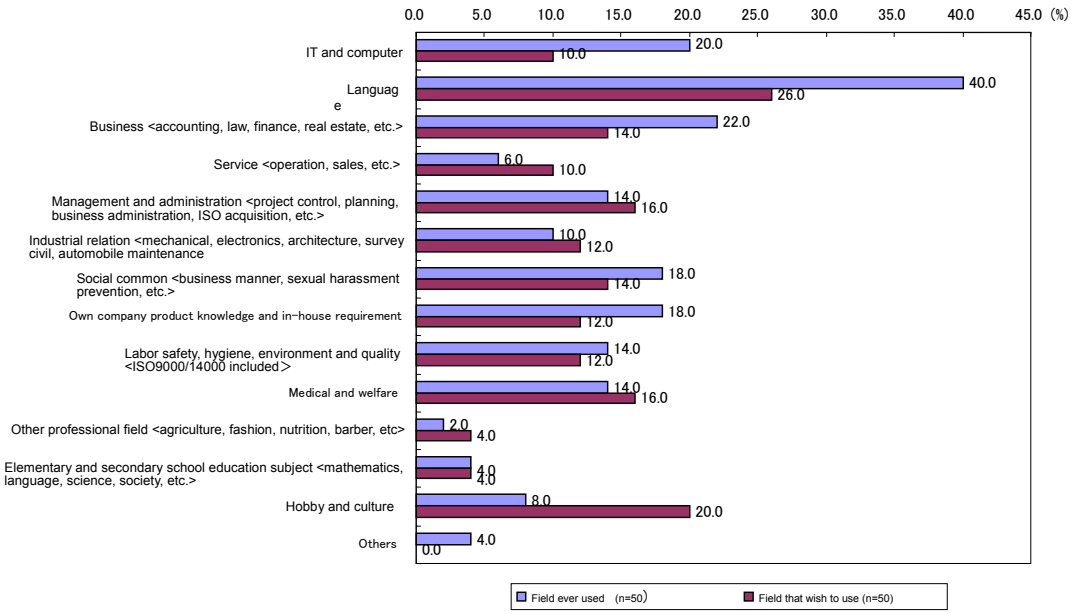



Figure 3-25　Mobile learning usage field and future desired usage field (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

[2] Form of mobile learning that desires to use in future

When we asked personnel who never used mobile learning regarding the form of mobile learning that desires to use in future, [Personnel tests to check understanding level and memory] is 40.4% highest, following [Terminology and wordbook, etc. are to check by character] 39.1%, [Using music and audio play function, personnel listen lecture and foreign language conversation example] 26.8% and [Personnel read text, etc. by connecting to internet] 26.4% (Figure 3-26).

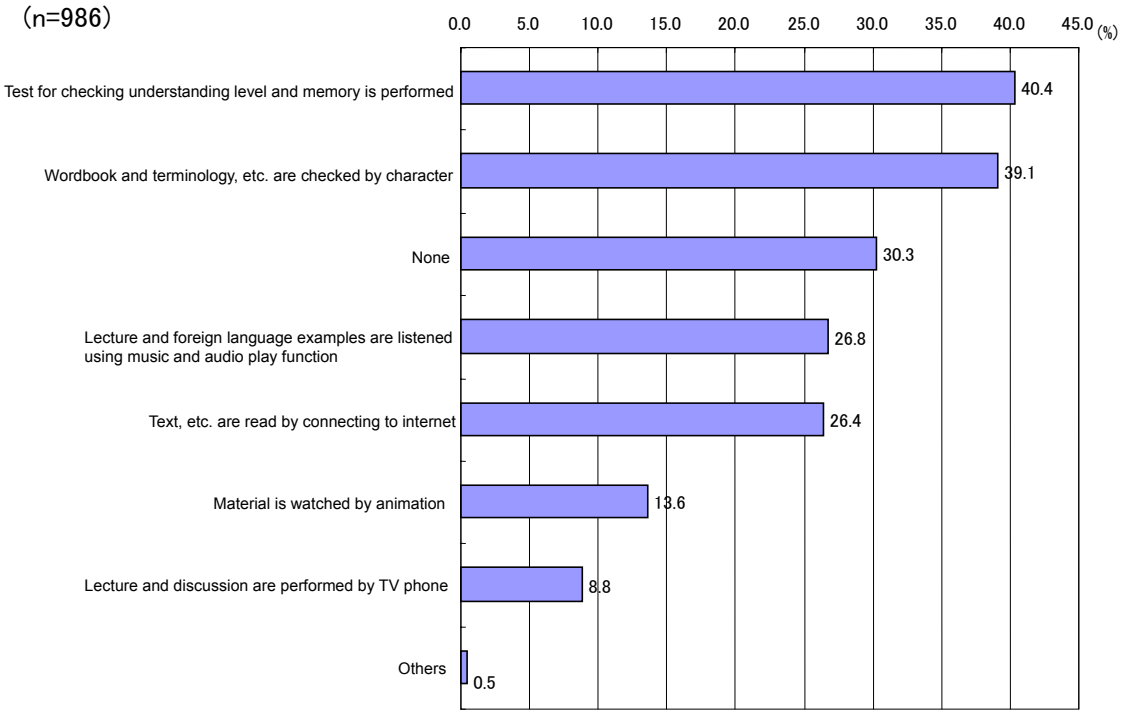



Figure 3-26　Form of mobile learning that desires to use in future (MA)

Source: e-Leaning user survey [Private] (eLC 2005)

## 3.4　e-Learning usage case in enterpise

In order to seek for effective introduction and usage points of the e-Learning in enterprise, several enterprise cases were picked up, and the introduction purpose and feature of usage actual condition are arranged and classified to observe an important point for effective usage.

### 3.4.1 Arrangement and overview of enterprise case

[1] Viewpoint of case study (PDS cycle)

In order to concretely grasp e-Learning introduction and usage of enterprise, the following 3 viewpoints are arranged and described as [PDS (Plan-Do-See)].

Background and purpose of e-Learning introduction and startup process, etc. are arranged by stage [1] background and startup; e-Learning contents being performed by stage [2] execution contents; evaluation and future prospect of e-Learning introduction by stage [3] generalization and prospect respectively (Table 3 – 1).

Actually, each stage may be complicatedly intertwined, however arrangement shall be such 3 stages.

Table 3 – 1 Viewpoint of case study (PDS cycle)

| Each stage | Example of important item |
|---|---|
| [1] Background and startup | Background and purpose of introduction, startup process, etc. |
| [2] Execution content | Execution content, management method, etc. |
| [3] Generalization and prospect | Generalization, evaluation, issue, future prospect, etc. |

[2] Enterprise case list and overview

The number of enterprise cases picked up this time is 19, and enterprise scale/business type, background/purpose and execution method are various. The diversified cases have been recorded such as; e-Learning is positioned by a link of entire company strategy; it is used for special training efficiency and effect improvement; it is systemically used for daily work support; it is tackled as new business; training service is supplied to entire group enterprise; and training is supplied to client.

Overview of enterprise case in Table 3 – 2 is as follows (Refer to [Part Ⅲ Case] for each case details).

Table 3 – 2 Enterprise case list

| Case No. | Name | Business type | Major subject | Case point |
|---|---|---|---|---|
| ① | AIG group | Finance/insurance | AIG group<br>① In-house employee and for in-house of salesperson<br>② Agent and for external house for home-stay employee | Wide usage including from employees to agents |
| ② | SB & Foods Inc. | Food | All employees | Many usage of text form that preparation and learning can be done in short time |
| ② | EPSON Intelligence Corporation | Information service | Epson group employees (permanent staff, dispatch worker and part timer included) | Integrated e-Learning service featured multi-language function usage and view customization |
| ④ | KANSAI Electric Power Inc. | Electricity/gas | All employees | Entire company development step by step introduction<br>Large scale introduction of blended type |
| ⑤ | KITAMURA Co., Ltd. | Retailer | Shop and sales employees (all 550 shops) | Usage of sales support type used many animation |
| ⑥ | Kirin Brewery CO.,LTD. | Food | All employees (all employees and partial employees of group company including temporary and dispatch employees) | Entire company integration of private introduction of each dept.<br>Training each business dept. from entire lecture mandatory training is concerned |
| ⑦ | KONIKA MINOLTA Holdings , Inc. | Electric equipment | All employees of Konica Minolta Holdings groups | Blended type concerned to management class |
| ⑧ | Sumitomo Cement Systems co., ltd. | Information service | Informal employee, new employee and all employees | ASP usage of in-house content and subcontractor content |
| ⑨ | Chugai Pharmaceutical Co., Ltd. | Medicine | All employees | Entire company integration of individual introduction of each dept.<br>From entire company mandatory training till business dept. training |
| ⑩ | Denso Corporation | Transport equipment | All employees | Development and operation of unique own materials in communication education between different cultures |
| ⑪ | Nippon Telegraph and Telephone West Corporation | Information/communication | All employees of Nippon Telegraph and Telephone West | Integration and cooperation of own company carrier design management tool system and e-Learning system |
| ⑫ | Nippon Travel Agency Co., Ltd. | Leisure | All employees | Sales power enforcement and introduction of all employee mandatory training |
| ⑬ | Pasonatech Co., Ltd. | Service | Registered engineers (registered employee) | Registered employee skill up<br>Development and sale of mandatory training [information security] that can be taken as game feeling |
| ⑭ | Hitachi Research Laboratory, Hitachi Ltd. | Training service | Hitachi group all employees (some non-group) | Development and supply of unique materials of business management, law, etc. |
| ⑮ | FamilyMart Co., Ltd. | Retailer | For all companies (system planning dept.)<br>For supervisors (system operation dept.) | All employee lecture mandatory training<br>PC training and security training by e-Learning for supervisors |
| ⑯ | Fancl Corporation | Chemical | Fancl group all employees | Knowledgement system covered in-house information and training lecture used many animations |
| ⑰ | Fuji Xerox Co., Ltd. | Electric equipment | 1. Engineering human resource<br>2. Sales human resource | Wide execution from engineering to sales in order to realize competency enforcement strategy<br>Wide use from own company employees to group employees |
| ⑱ | Mitsui & Co., Ltd. | Wholesale | All employees (overseas branch and office included) | Wide use from external general purpose material to in-house material |
| ⑲ | Ricoh Company, Ltd. | Electric equipment | Ricoh group all employees (mainly domestic) | Entire company development with set by step introduction<br>Wide use from own company employees to group employees |

Note 1) For [Business type], [Kaisha Shikiho], etc. was basically referred].
Note 2) For [Major subject], it complies with each case description.
Source: Prepared by interview survey, etc.

[3] Major feature of enterprise case

The following features are observed in the enterprise case of Table 3 – 2.

・Both enterprise and concerned business type are widely spread. Introduction of not only IT enterprise but also business types that were a few e-Learning introduction such as food, leisure and retail sale is also progressing.

・From examples that training used the e-Learning is subject to all employees and is subject to special division as well as to that group employees are increased, is increasing.

・Not only own company and group company but also client related to agent are included in some case.

・Execution contents widely spread to all company all around education and employee carrier support system such as efficiency of in-house education by IT, compliance, etc.

・There are extreme examples such as that some enterprises have recently introduced the e-Learning and that other enterprises have been using for a long time.

・In the case of large enterprises who have introduced, entire company development has been realized through step by step introduction.

・In addition to conventional language and IT field training, usage is increasing in management system.

・The higher learning contents are, the further advance blended type introduction is.

・There are also realized cases of cooperation between enterprise personnel information system and e-Learning system as well as of cooperation with carrier development support system.

・Knowledge management usage that unitedly supply all in-house information and educational training is also increasing.

・There are also examples that are used for EPSS daily work support and immediate sales support.

・Even in business types other than enterprise, there is example of enterprise who aims at business domain reclamation related to the e-Learning.

・There is also movement to sell unique contents developed by own company.

### 3.4.2 Classification by approach of enterprisr case

As observed until now, there are various cases such as; enterprise case is subject to special division as method for efficiency of education in enterprise; it is used as all around education method for all employees. Furthermore, it can be understood that there is many [Blended case] used assemble education and e-Learning.

While, if feature of these enterprise cases are observed, there are also many cases such as; not only in-house education but also education from group companies to clients are subject to; it is used for promotion of in-house communication; other systems of personnel management system and support system are linked; it is used as platform of entire company corporate and university; and the e-Learning is using as in-house education method while it is tackled as new business development theme.

Thus, it can be understood that in current e-Learning usage, cases that can not be caught by conventional e-Learning usage framework of [Alternative method of education in enterprise by IT] are increasing. By this, it is observed that the e-Learning deepens relationship with other work activity and process by not only positioning one method of education in enterprise but also centralizing human resource management of enterprise. We have understood feature and approach of such new usage, and in order to seek for the trend, arrangement and analysis have been tried in the following viewpoint.

[１] Viewpoint of strategy usage

For e-Learning propagation and development, there are many indications that cooperation and contribution with management strategy and personnel strategy. However, claim that human resource management is important, is a general recognition, but clear answer how level it contributes to competitive predominant formation of enterprise, has not been obtained yet. Performing effective human resource upbringing, frequently performing levels 3 – 4 of Kirk Patrick and ROI analysis and continuously improving human resource upbringing and linkage, are not easy for most of enterprises.

The viewpoint is therefore to be widened, and it shall be caught by standpoint how mechanism and system of the e-Learning is helpful for strategy execution and achievements of enterprise in addition to the human resource upbringing and knowledge management promotion.

In order to arrange that, [Human resource upbringing] and [(Concerned personnel) in-house and external house] are set to X axis and Y axis respectively, and if usage cases of e-Learning system of advanced enterprise are classified, it shall be as follows (Figure 3-27). It means that subject of X axis is laid emphasis on human resource upbringing and education/enlightenment regardless of in-house and external house, or that it is laid emphasis on work renovations such as improvement of daily work efficiency and startup of new business. While, it means that in the Y axis, user of e-Learning system or concerned personnel of service lays emphasis on the in-house or external house.

Items on X axis and Y axis do not show opposition concept but level that lays emphasis on.

・[Type A employee education enforcement]: Efficiency and expansion of employee

education by IT usage

・[Type B channel enforcement]: Channel enforcement with agent, client and customer

・[Type C communication enforcement]: Enforcement of mind thoroughness of in-house management personnel [Vertical] and employee communication [Horizontal]

・ [Type D new business development]: Development of new product and service used

e-Learning experience

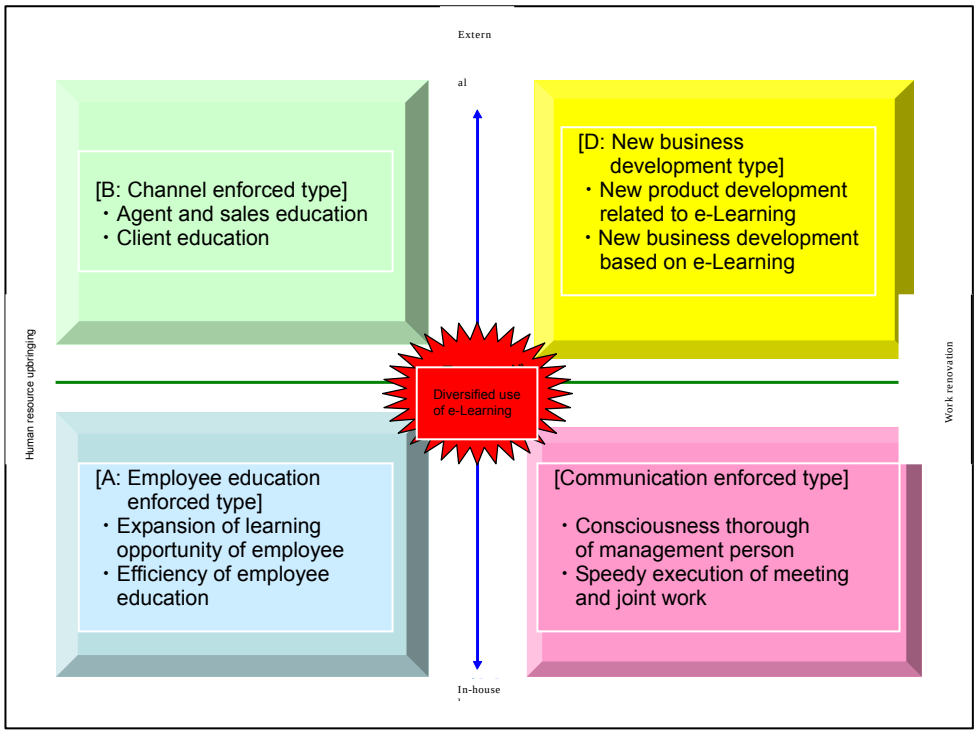



Figure 3-27　4 classifications of e-Learning strategic use

Source: Atsutoshi Ohshima (2003) Created from [Strategic usage method of helpful for e-Learning for enterprise strategy]

Generally, the case being introduced as e-Learning usage case is [Type A] of employee education enforcement. While, it can be said that it is methods of that [Type B], [Type C] and [Type D] strategically use the e-Learning for realizing enterprise strategy and human resource strategy form viewpoint that differs from [Type A] of conventional concept.

[Type B] is comparatively new e-Learning system usage method, however CRM（Costumer Relationship Management）and SCM（Supply Chain Management）are being used as a link of business activities. For example, it is method to accept training and consultant of sales method on online after feature and sales know-how of new product are informed to agent by real time.

[Type C] achieves speedup of in-house intention transmission, performs remote meeting by this system, controls loss of direct and indirect opportunity costs, raises communication

ability of organization, and uses for achievement improvement.

[Type D] is new product development related to the e-Learning and development of new business used the e-Learning.

[２] Classification viewed from viewpoint of strategic usage

If [4 classifications of strategic usage] is applied to the enterprise case, it will be the following Figure 3-28.

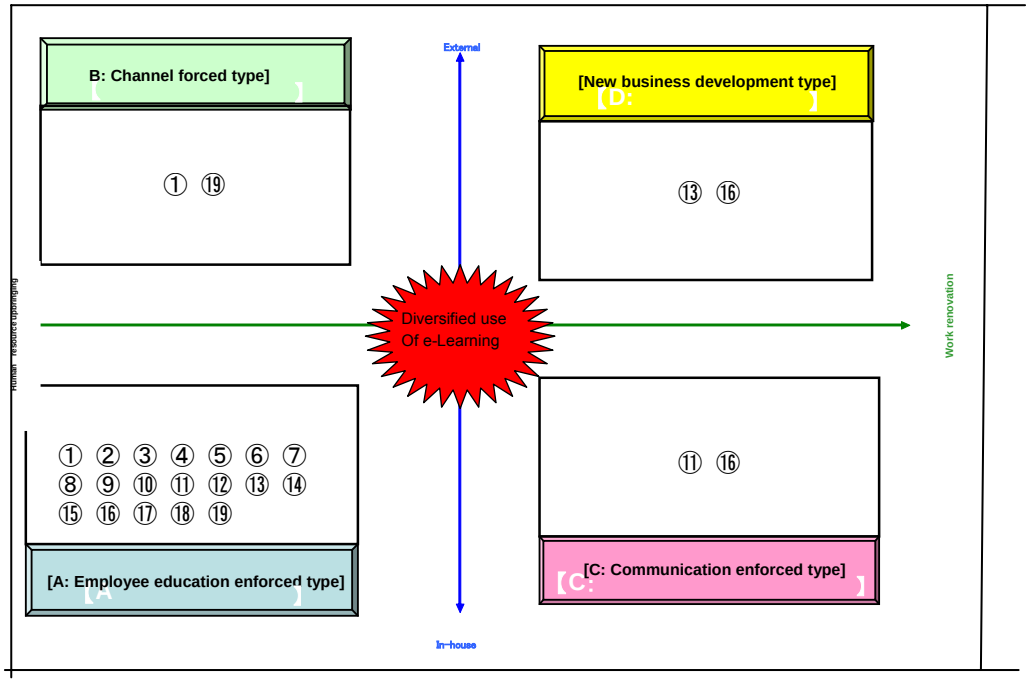



Figure 3-28　Case distribution viewed from 4 classifications of strategic usage

Source: Created by interview survey, etc.

Thus, it can be observed that there are unexpected tackling not only alternation of employee education of type A but also of channel enforcement with client and customer of type B, and of enforcement of in-house communication and cooperation of type C (also connected to knowledge management and community of practice).

Moreover, in the cases of new business development of type D, there are the case positioned as new business from the beginning of e-Learning introduction and the case became tackling as new business during introduction and development of e-Learning in company.

### 3.4.3 View of e-Learning usage in enterprise

Several trends such as generalization of blended learning, usage methods of individual training and entire company all around training, entire company platform introduction, increase of unique material development, cooperation and integration with e-Learning and

other IT system, etc.　were able to extract through enterprise cases picked up this time.

While, in addition to picking up the e-Learning as one method of education in enterprise, arrangement and classification were performed by wide framework of [Strategic usage] from relationship with entire enterprise activities such as work activity, process improvement, etc., and new trend were sought.

Regarding execution contents and results of enterprise cases observed, if the viewpoint is changed and arranged regarding applicable aspect of e-Learning usage other than enforcement of direct human resource upbringing, it can be mainly divided into the following 2 approaches. One is [Approach of communication and network enforcement of in- and external house works], and other is [Work support system approach directly connected to daily works] (Figure 3-29).

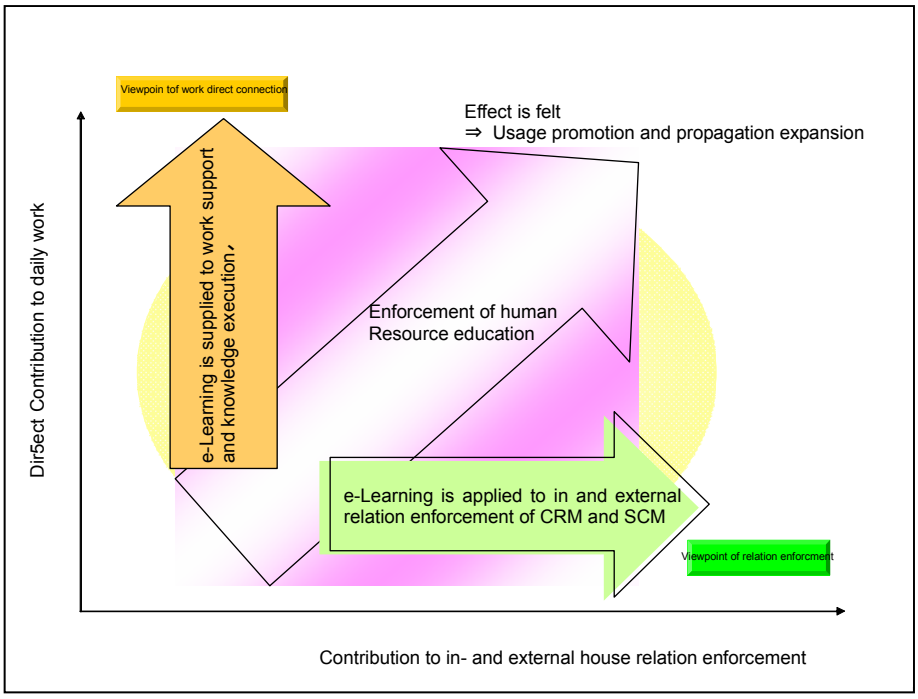



Figure 3-29　2 applicable approaches of e–Learning

The former approach applies, as can be understood from the aforementioned case, the e-Learning system as mechanism to enforce communication and network of in- and external house stake folders such as the CRM and SCM. This is useful for relation enforcement with customer and client.

The latter approach uses for, as can be observed from the aforementioned case, work support system (EPSS) as daily work activity support, and applies the e-Learning system as one of execution methods of knowledge management.

These 2 approaches have supported major purpose of [Enforcement of human resource upbringing] that the e-Learning originally purposes, and brought effect for various things of enterprise activity.

Thus, the e-Learning is not only operated by catching as one system of education in

enterprise, but if achievements are made by applying the e-Learning to various work activities and processes, the e-Learning effect is actually felt, evaluation is raised and usage ratio of the e-Learning is improved at site. In turn, it is connected to budget acquisition and promotion system enforcement that enforce the e-Learning, and further enriched mechanism architecture will also become possible. Introduction and usage of the e-Learning can not be simplified, and learning approach required for one's company and usage technique from such diversified cases are extremely important.

In future, through such diversified cases, if such approach is widely recognized and the effect can be understood, usage promotion, propagation and expansion of the e-Learning in enterprises will become pretty sure.

# 4. e-Learning use trend in higher education

## 4.1 Usage status in higher education

Here, environmental change surrounding higher educational institute that is mainly university, is arranged as well as IT progress and tackling status in universities are overviewed.

### 4.1.1 e-Learning outlook in higher education

[1] Environmental change surrounding university

Globalization of economy, society and culture has progressed, and violence of international competition has been increasing. The higher educational institute such as university, etc. needs to bring up superior human resource who can cope with social requests, and construction renovation in order to proceed advanced and unique research with international competitive power, is required.

As one of construction renovation, 89 national university foundations and 4 university common use institute foundations were born in April 1,2004, based upon law of national university foundation. Owing to the national university foundation, independence and self-reliance of each university, etc. were drastically expanded, and flexible management became possible. Each university, etc. use foundation system merit at the maximum, and heap up contrivance and tackling with each personality, and producing the results with close application has been expected.

Due to affection of children decrease, it was said that [All member entrance day of university] of that proportion of all candidates Vs entrance members become 100% would be come in 2010, however, in recent year, it has been assumed that the day will be coming in 2007, and crisis consciousness of universities is spreading. While, needs for high professional education and lifetime education for social members are raising.

In such speedy environmental change, the e-Learning has been highlighted as influential measure for contributing quality improvement of education, acquiring future favorable market such as social member students and for university survival.

[2] e-Learning and credit recognition

Most of e-Learning introduction in higher education was for trial for research purpose by each teacher in the past, however it has been changed to tackling of a faculty credit and entire faculty credit in recent year. As major reason, change of system that credit recognition by remote study for both attending system and correspondence system were sharply recognized, can be pointed out.

Due to the report of [The way of higher education requested in globalization day] issued by the Ministry of Education, Culture, Sports, Science and Technology in 2000, study used information communication technology of internet, etc. was positioned as the remote study, and credit acquirement (correspondence system: 124 credits required for graduation, attending system is up to 60 credits and postgraduate school is no limit) became possible.

Furthermore, the present university establishment criteria specifies [According to criteria specified by the Minister of Education, it is specified that study can be performed at the place other than classroom, etc. by highly using diversified media] for the remote study. In the notice of the Ministry of Education, Culture, Sports, Science and Technology received this requirement, requisite regarding the remote study by television meeting system has

been specified. Concretely, criteria that the following requisite is to be fulfilled, and that approved to have educational effect corresponding to face-to-face study in each university, is pertinent.

- Diversified information such as character, audio, still picture, animation, etc. are to be unitedly handled, and they are to be performed simultaneously and interactively.
- Study is to be performed at classroom other than classroom, etc. performing study , research room or place corresponding to these.

For the study used internet, etc., even simultaneousness and interactivity in face-to-face study are not available, there is sufficient possibility to maintain equivalent educational effect to the above. Then, situation that the following all requisites are fulfilled and that approved to have the educational effect corresponding to face-to-face study in university, has been positioned to be the remote study.

- Diversified information such as character, audio, still picture, animation, etc. is unitedly handled
- By using information communication technology such as electronic mail exchange, etc. and directly interviewing office hour, etc., teacher and assistant staff (teaching assistant, etc. who perform assistance of education activity under teacher's direction) are directed by question and answer, correction direction, inquiry and reply, etc. before every study.
- Students are supplied opportunity to mutually exchange opinion regarding study.

[3] New movement of e-Learning introduction

The government is also supporting for concrete tackling of the e-Learning in universities. In the e-Japan strategy issued in July 2003, e-Learning promotion has been described. In [Modern education needs tackling support program=good practice (Gendai GP)] of the Ministry of Education, Culture, Sports, Science and Technology in 2004, hundred several ten schools applied for e-Learning field of the higher education, and 15 universities were selected. Furthermore, 14 universities have been selected in 2005. In [IT new revolution strategy] issued in January 2006, the e-Learning promotion has been described. Thus, e-Learning tackling in universities will increasingly expand in future.

In the past, e-Learning execution had strong experimental meaning by special teacher and researcher in many universities. However, due to change and political support of economic social environment and management environment as aforementioned, e-Learning introduction has been taken up as important issue in many universities.

2004 was called as the year that the e-Learning introduction was truly started in university. And 2005 will be positioned as the year that diversification of tackled content and improvement of execution method has been progressed with propagation of the e-Learning.

### 4.1.2 Usage in professionalism postgraduate school

Here, it is focused on professional postgraduate school being highlighted, and the current status and possibility of e-Learning usage are taken up.

[1] Background of professionalism postgraduate school establishment

The purposes of human resource upbringing in postgraduate school are mainly classified

by 1) training of researcher and 2) training of human resource that has high and professional job ability. However, in the past, importance was laid on the former, and education at business level such as the latter was never laid emphasis. With progress of internationalization and diversification and high level, the postgraduate school focused on the part of high professionalist training had been established.

At first, [Professional postgraduate school] specialized in the high professsionalist training was institutionalized in 1999, and 6 research departments and special study were established up to 2002. However, since the [Professional postgraduate school] was positioned into conventional postgraduate master's course, fundamental review of positioning and way of the [Professional postgraduate school] itself was pointed out due to limitation of practical education for training the high professionalist, and improvement and development were sought.

Doctrine of the [Professional postgraduate school] was inherited as [Professionalism post- graduate school] from 2003, and educational institute specialized in higher professionalist training was established. 10 special studies were started in 2003, and 15 special studies were additionally established in 2004.

### [2] Trend of professionalism postgraduate school

The [Professionalism postgraduate school] differs from conventional postgraduate school, and is institute that performs practical education aimed at "Training of human resource who has high and professional job knowledge" for occupation required high professionalism.

After completion, [Professionalism degree] of [OO master (professionalism)] such as degrees of management (professionalism), master of accounting (professionalism) and philosophy doctor of justice (professionalism) are given. Standard training period shall be 2 years, and depending on field, flexible system design every each majored field such as recognition of 1 year training period has been levied on the professionalism postgraduate school. Moreover, law postgraduate school becomes 2 year course (trained course) and 3 year course (non-trained course).

Research instruction shall be received but pass for audit of research result shall not be mandatory, and more than a certain period of attendance and acquirement of credits required for every each majored field (completion of educational course specified by each university such as acquirement of more 30 credits) shall be mandatory. In the law postgraduate course, acquirement of more than 63 credits for 2 year course and more than 93 credits for 3 year course is required. Since Primary object is placed on human resource with immediate challenging force, it is must that more than 30% of full-time teachers (more than 20% in law postgraduate school) is consisted of businessperson, introduction of third party evaluation system is levied, and these are a large feature that differs from conventional postgraduate school.

If the number of incoming students in the professionalism postgraduate school is observed, it can be observed that primary students in private professionalism postgraduate school are extremely more than that of other national and public professionalism postgraduate schools. If primary students in professionalism postgraduate school is observed, it was found that proportion of social member students in national, public and private professionalism postgraduate schools shares 54%. Especially, the proportion of social member students in private professionalism postgraduate school is high, and it is shared by 58.6% in entire private universities. Since the professionalism postgraduate schools do not need research instruction teachers, installers are diversified, and types are also yearly increasing. There are the professionalism postgraduate schools such as [Law postgraduate school] to train law specialist, [Accounting postgraduate school]

to train accounting specialist, [MBA] to train enterprise management specialist and [MOT] to train specialist having both engineering professional knowledge and management sense.

[3] Professionalism postgraduate school and e-Learning usage

Due to diversification of the professionalism postgraduate school, both number and type are yearly expanding. Among those, as large purpose of 1) differentiation and 2) self-learning support, the e-Learning has been used. In the next, let's take a look usage trend of the e-Learning in the professionalism postgraduate school.

1） Law postgraduate school

With judicature renovation, the law postgraduate school has been established for maintaining a large increase of lawyer and the quality. In order to advance legal circles, completion of the law postgraduate school became mandatory. As of 2005, the law postgraduate school is most popular among professionalism postgraduate schools, and the future prospect is also expected.

In the law postgraduate schools, 70% of more than 93 credits of completion credit becomes mandatory or selected mandatory course. The relative importance of these mandatory course is very large, compared with other professionalism postgraduate school. Not only study, in order to learn required ability in short period such as 3 years or 2 years and to pass judicial examination, self-learning is necessary. The e-Leaning used for self-learning is mainly for learning of fundamental knowledge and review after study.

2） Business school

With globalization of management, among that requirement to human resource which internationally passes is escalated, evaluation of domestic MBA is still low, compared with authoritative overseas MBA such as the Harvard University. These current status breaking and improvement of international competitive power of professionalism postgraduate school, that is to say, establishment of education quality guarantee and system on business school are currently seeking for. In order to realize these, review meeting about 40 postgraduate school staffs nationwide was performed, and it was determined to complete establishment plan of internationally passed verified evaluation institute by March 2007.

3） Others

The professionalism postgraduate school has been established not only for above-mentioned law and business administration but also for currently various fields such as public policy, public hygiene, management of technology (MOT), university management and IT.

Furthermore, Establishment style is not professionalism postgraduate school and is conventional postgraduate school, however there is also the following postgraduate school by internet aimed at high professionist of e-Learning development.

### 4.1.3 IT progress and e-Learning usage in higher education

In order to grasp progress of IT and actual status of e-Learning usage in higher education, we

will describe result overview of 2 comprehensive surveys ([Actual status of IT usage in nationwide higher educational institute] and [Survey regarding education used IT of e-Learning, etc.]) performed by the Media Educational Development Center.

[1] Actual status of IT usage in university

In order to grasp entire image of IT usage of the higher educational institute, the Media Educational Development Center is yearly performing survey since 1999. We will mainly and especially describe 4 years course university replies regarding contents of [Actual status survey of IT usage in nationwide higher education institute] (performed in December 2004: number of effective recovery: 975 4-years course universities).

As of 2004, in IT usage in university, internet relative importance is increasingly raising. In comparison of face-to-face study with two-way study of internet, it was resulted in that difficulty of two-way study was re-recognized. Universities who think of [Combination with face-to-face study is required] and [Learning support other than study is required], exceeds 90%, and universities who think of [Educational cost drops] and [Study load of teacher is reduced] by two-way study used internet, is small. While, [Higher education is activated], [Exchange study with other institute is increased] and [Social member students are increased] exceed 70%, and many aggressive evaluation can be observed. If such merit can be concreted by conquering the aforementioned issues, it is considered that the two-way study used internet will be settled.

As for support system to multimedia material preparation in university, the proportion of 34.4% of [Organizational support of university (multimedia center, etc.) ], 34.3% of [Support of responsible teacher and staff in school], following 31.3% of [Support of volunteer teacher] and 22.7% of [Support of volunteer student] is high, and it can said that preparation support system for multimedia is not sufficient. It can be said that organizational correspondence as university is being enforced by cooperating school organization and volunteer teacher and student.

[2] Actual status of education used IT of e-Learning, etc.

The Media Educational Development Center performed comprehensive survey for grasping actual status of the e-Learning in Japanese universities [Survey regarding education used IT of e-Learning, etc.] (number of effective recovery: 777, effective recovery ratio: 62.2%). The survey concerned includes university, junior college and college. Several survey result points are described below:

The proportion that the e-Learning has been introduced by higher educational institute such as university, is 36.3% of the all. If observed by type of institute, it can be observed that e-Learning introduction in university and college is comparatively progressing, compared with junior college. If observed by establishment style of university, the e-Learning has been performing at 69.3% of national, 18.9% of public and 41.4% of private. The e-Learning introduction is progressing at national universities and large scale universities with more than 5 faculties. Furthermore, 82.0% of institutes that is performing education used IT, has introduced the e-Learning, and it can be understood that the e-Learning has importantly positioned in the IT usage education.

Tackling of various styles such as organizational correspondence, private correspondence and correspondence with organizations between universities formed, can be considered in education used IT. Present tackling style in university and institute that education used IT is performing, are mainly partial organization in university (center, school subject, faculty, etc.) and in university. Besides this, consortium with domestic university, etc. (Japan OCW Correspondence Association, On-demand Study Distribution Forum, International Network University Consortium, etc.) are tackling with, however organizational tackling between universities is small.

Currently, [Maintenance of educational quality guarantee] is becoming an important issue

in the higher education. Since education used IT is sought for more than equivalent effect to face-to-face study, maintenance of quality guarantee extremely becomes important. Many replies received as tackling to the quality guarantee before performing education used IT, are [Face-to-face study and e-Leaning, etc. are supplied with blended], [By learning support to students of maintenance, etc. of mentoring, tutoring, communication of teacher/staff], [Student scholastic ability evaluation is performed by examination, report, etc.]. The tackling style to quality guarantee is diversified depending on institute. However, it can be understood that quite number of institutes has been tackling with the quality assurance before execution of education used IT.

## 4.2 e-Learning usage cases in university

Here, in order to review effective introduction and usage point of the e-Learning in university, various cases are picked up, introduction purpose and feature of usage status are arranged and classified, and important point for effective usage is to be considered.

### 4.2.1 Arrangement and overview of university cases

[１] Viewpoint of case consideration (PDS cycle)

In order to concretely grasp e-Learning introduction and usage in university, by referring to the [PDS (Plan-Do-See)], each case has been arranged and described in the following 3 viewpoints as same as the aforementioned enterprise case.

Background/purpose of e-Learning introduction and startup process, the content of the e-Learning being performed and generalization and future view of e-Learning introduction are to be arranged by [1] background and startup, [2] execution content and [3] each stage of generalization and view respectively (Table 2 – 1). Actually, each stage may get complexly intertwined, and these are to be roughly arranged into 3 stages.

Table 2 – 1　Viewpoint of case consideration (PDS cycle)

| Each stage | Example of important item |
|---|---|
| [1] Background/startup | Background and purpose of introduction, startup process, etc. |
| [2] Execution content | Execution content, management method, etc. |
| [3] Generalization/view | Generalization, evaluation, issue, future view, etc. |

[２] University case list and overview

The university cases picked up this time are 11, and university scale, background/purpose and execution method are various. Diversified cases such as; credit can be obtained by e-Learning; e-Learning is used as a help of study improvement; e-Learning is used as a link of renovation of study technique, have been recorded (Refer to [Part Ⅲ　Case for each case details].

Table 4 – 2　University case list

| Case No. | Name | Major subject | Case point |
|---|---|---|---|
| ■University | | | |
| ① | Osaka University of Foreign Studies | Student of Foreign Language School (Possible to read other than student | E=learning materials for preparation/review In multi-languages |
| ② | Osaka University of Arts | Students of correspondence of Education and Music school | e-Learning usage in new field of music education |
| ③ | Kanazawa Institute of Technology | All students | Cooperation of [Learning support system], [e-learning] and [Portfolio] |
| ④ | Sonoda Women's University | High school student and social irregular student of all faculties and prefecture | e-Learning supply in fields of [Basic information education], [Lifetime learning], [Professional education] and High/large cooperation] |
| ⑤ | Nagaoka University of Technology | Cooperated university and college | e-Learning in new field of mechanical safety engineering |
| ⑥ | Ritsumeikan University | Cooperated high school | Program execution combined Web live lecture with screening study to 20 cooperated high schools |
| ⑦ | Waseda University/Digital Campus Consortium (DCC) | DCC participated university and enterprise | Establishment of consortium cooperated with Many universities and enterprises, joint development and distribution of digital materials |
| ■Professionalism postgraduate school | | | |
| [Management] | | | |
| ⑧ | Aoyama Gakuin University, International Management | University students cooperated as student with GKN of research school | Execution of [Management game] used internet |
| ⑨ | Nagoya University of Commerce & Business Postgraduate school | Student of MBA course | Lecture support and management system Of student |
| [Law] | | | |
| ⑩ | Kanagawa University Graduate division, Law School | Student of law school | Use of e-Learning as supplemental learning method for basic knowledge acquisition and special debate |
| ⑪ | Meiji University, Law School | Student but especially non-learner of Law school (student who did not learn Professional law at law school) | e-Learning as introduced for self-reliance as for mainly non-leaner of law |

Note 1): [Major subject] complies with each case description/

Source: Prepared by interview survey, etc.

[３] Feature of university case

The following features are observed in Table 2 – 2　University case.

・There are wide range from that the e-Learning is used as supplemental measure of study, to that credit can be obtained by the e-Learning,

・Totally, blended learning used both assemble education and e-Learning is the mainstream. e-Learning usage is spreading in the field that the e-Learning was not used for education of music in past,

・As for e-Learning materials, various measures such as movie, animation, simulation, etc. have been taken,

・There are strategic cases that it was introduced to partial study, and that each faculty verified introduction and all university level currently started introduction,

・Mainstream is subject to official students, however there is case for lifetime learning and job ability development for social personnel. Especially, in professionalism postgraduate school, the e-Learning is used to brush up professional ability,

・By using maximum feature of the e-Learning, study used the e-Learning is performing with overseas cooperated,

・The e-Learning is not only used for learning process but there is also case that searches for new business model as educational institute,

・There are also advanced cases that e-Learning introduction is taken as management issue, and that seamless environment of existing work system in university and e-Learning system newly introduced it to be built to tackle with comprehensive IT promotion in university, and

・Consortium by several universities is established, and the e-Learning has been used as activity measure.

### 4.2.2 Classification by approach of university

In order to arrange feature and approach of university cases and seek for trend, the following viewpoints are considered:

[１] Viewpoint of classification from [Credit recognition] and [Necessity of attendance]

Regarding tackling of study used the e-Learning, if it is classified as criteria of level of [Credit recognition] and [Necessity of attendance], it will be as follows (Figure 4 – 1). Vertical axis and horizontal axis show [Credit recognition] level and [Necessity of attendance] level respectively.

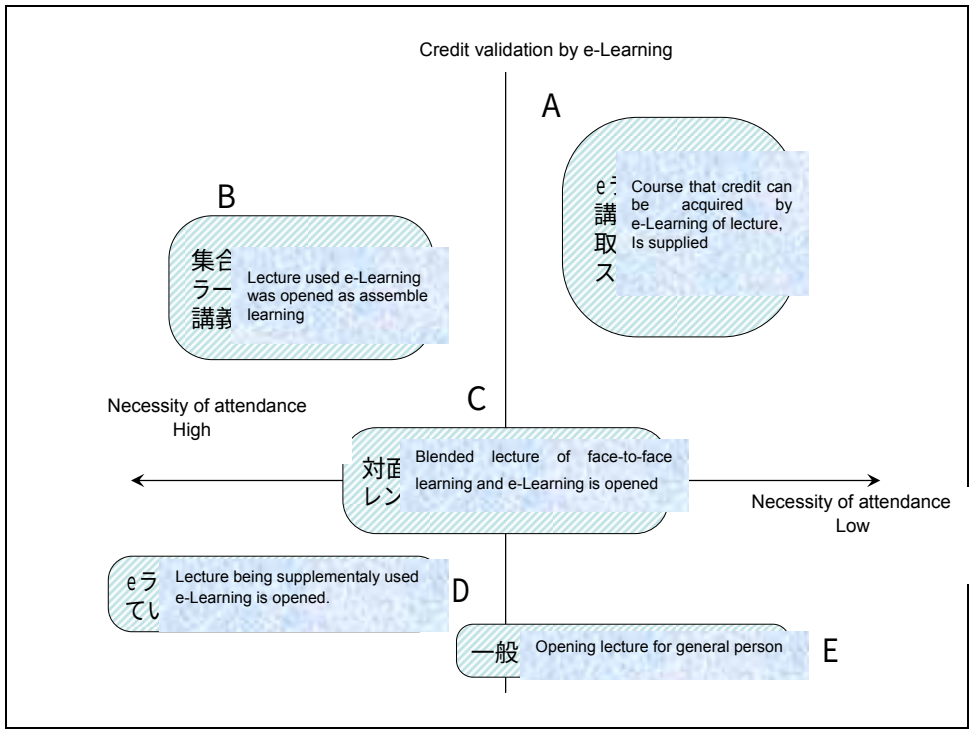



Figure 4 – 1　Classification of e-Learning usage study viewed from credit recognition and necessity of attendance

If 11 university cases picked up this time are inserted into the classification of Figure 4 – 1, it will be the following Table (Table 4 – 3).

Table 4 – 3　Classification overview and appropriate case

| Classification | Overview | Case No. |
|---|---|---|
| Type A | Credit can be obtained by e-Learning lecture<br>* Case of non-attendance is very rare, and partial screening may be required. | ② ⑦ |
| Type B | It shall be attended and gathered at special place, and credit can be obtained by e-Learning. Difference to type A is that place and time taking lecture are limited. This corresponds to study distribution from remote area. | ④ |
| Type C | In 1 lecture, it is designed from both lecture by e-Learning without necessity of attendance and face-to-face study with attendance. | ③ ④ ⑤ ⑥ ⑧ |
| Type D | Opening of course that credit can be obtained only by e-Learning is not available, and supplemental e-Learning has been taken in study with normal attendance. | ① ⑨ ⑩ ⑪ |
| Type E | Whole or part of e-Learning has been taken for general open lecture. | ① ④ |

Note: Classification of university cases picked up this time may spread into several types, however the above was classified from major feature.

### 4.2.3 View of e-Learning usage in university

The e-Learning usage in university has been performed from before, however most of them was research/experimental stages and small scale. Furthermore, although maintenance of information environment in university had been progressing, e-Learning propagation was not sufficient enough in style used it.

In recent year, universities are facing with very large environmental change of children decrease and the Independent Administrative Corporation. Due to that, as one of method to survive in acquisition competition of students due to children decrease and as a link of maintenance of advanced learning environment, universities that tackle with the e-Learning have been increasing by that differentiation with other universities is planned by substantiality of the e-Learning and by that acquisition of overseas students are conscious. And opening of lecture used the e-Learning that credit can be obtained without attendance, has been progressing by corresponding to necessity of social personnel education.

Further, movement to perform with style entirely integrated or cooperated instead of tackling with the e-Learning performed by each faculty and each research room, is increasing, and competitive power of university itself is being largely affected.

One example of classification methods of university cases has been shown by [Credit recognition] and [Necessity of attendance] this time, however actually, various trials in each faculty of one university may exist. Furthermore, Several methods of combination in execution method of the e-Learning may also exist. Thus, it can be said that e-Learning usage same as diversification of educational contents and methods in each field of university is vary wide.

As observed up to now, the role that the e-Learning is expected, can be roughly classified into [Viewpoint of quality and supply measure of education] and [Viewpoint of university management] (Figure 4 – 2).

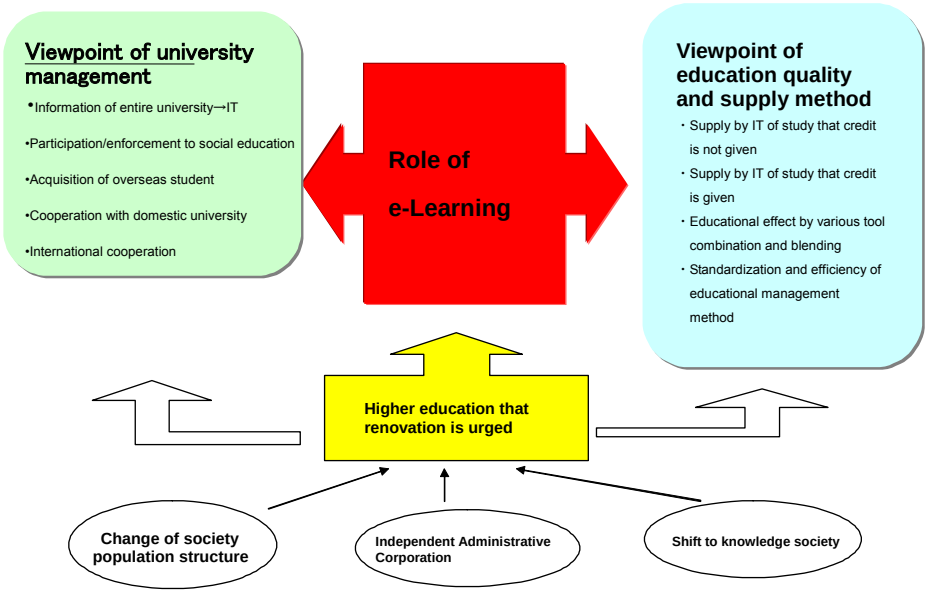



Figure 4 – 2　Role of e-Learning to be expected in higher education

As being expected by e-Learning introduction from before, [Viewpoint of quality and supply measure of education] of the former is aiming at improvement of education and supply measure by IT usage. A certain level of this has been realized by technical progress, and as can be observed from the cases, universities that most of credit can be obtained by the e-Learning have been appearing.

Moreover, [Viewpoint of university management] of the latter is new movement, and can be read from the cases such as IT promotion and system integration of universities, cooperation with other universities, acquisition of social member students and foreign students.

Due to change of economic social environment, practical education sought for universities has been diversified as well as practical contents have been changed. Therefore, there is also example to use the e-Learning for distribution of practical contents from industrial fields and lecture that is supplied by cooperating with other universities.

Thus, it can be said that the professionalism postgraduate school has appeared as concrete movement of participation and enforcement to social member education and high professionalist upbringing. In addition to business school being activated from before, recently, postgraduate school that high professionalism and practical education are required has born in various fields of law postgraduate school, accounting postgraduate school and others. Especially, the law postgraduate school is rapidly increasing, while problem of insufficient basic scholarship of primary students has been pointed out, and movement to use the e-Learning is seen as reinforced measure.

However, promotion system of the e-Learning in university and postgraduate school is not sufficient enough in budget, staff and know-how of study by the e-Learning, and it is seemed that it will take time to achieve the effect by successfully using introduced system by teacher.

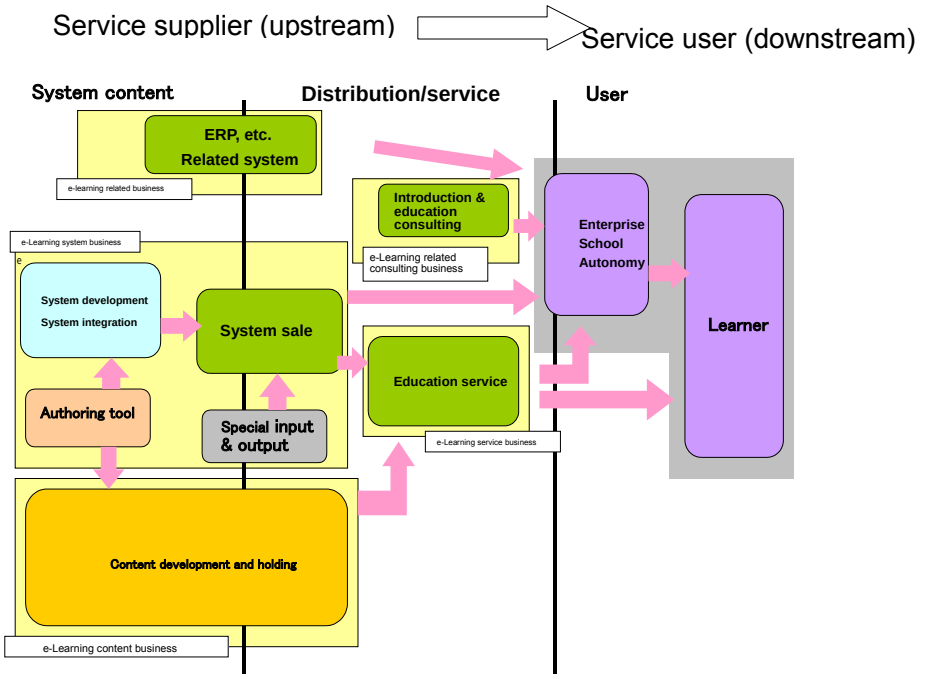
In the future, usage improvement of e-Learning system and substantiality of promotion system of staff will be important. It can be said to be same movement as enterprise, however by linking existing information system in

university to newly introduced e-Learning system, pioneer case tackled with strategic operation has been born, and tackling example will be increasing as management issue.

# 5. Trend of e-Learning business

## 5.1 Framework of e-Learning related business

The e-Learning business can be generally shown in the form shown in Figure 5-1 from service supplier (upstream) to service user (downstream) in the case distribution process of service is perceived.




Note: In the case of ASP service, [System contents] and [Distribution service] are unitedly supplied.

Figure 5-1 Entire image of e-Learning business (arrangement focused on distribution process)

## 5.2 Vendor actual status and current status of e-Learning business

In order to seek for current status of the e-Learning business, the e-Learning actual status and current status of e-Learning business are sought for, based upon result of [e-Learning business survey] performed as subject to the e-Learning vendor in December 2005.

### 5.2.1 Work domain of vendor

If the work domain of questionnaire replied vendors is observed, many vendors are involved in content related works, and a few vendors are involved in system development (Figure 5 -2 ).

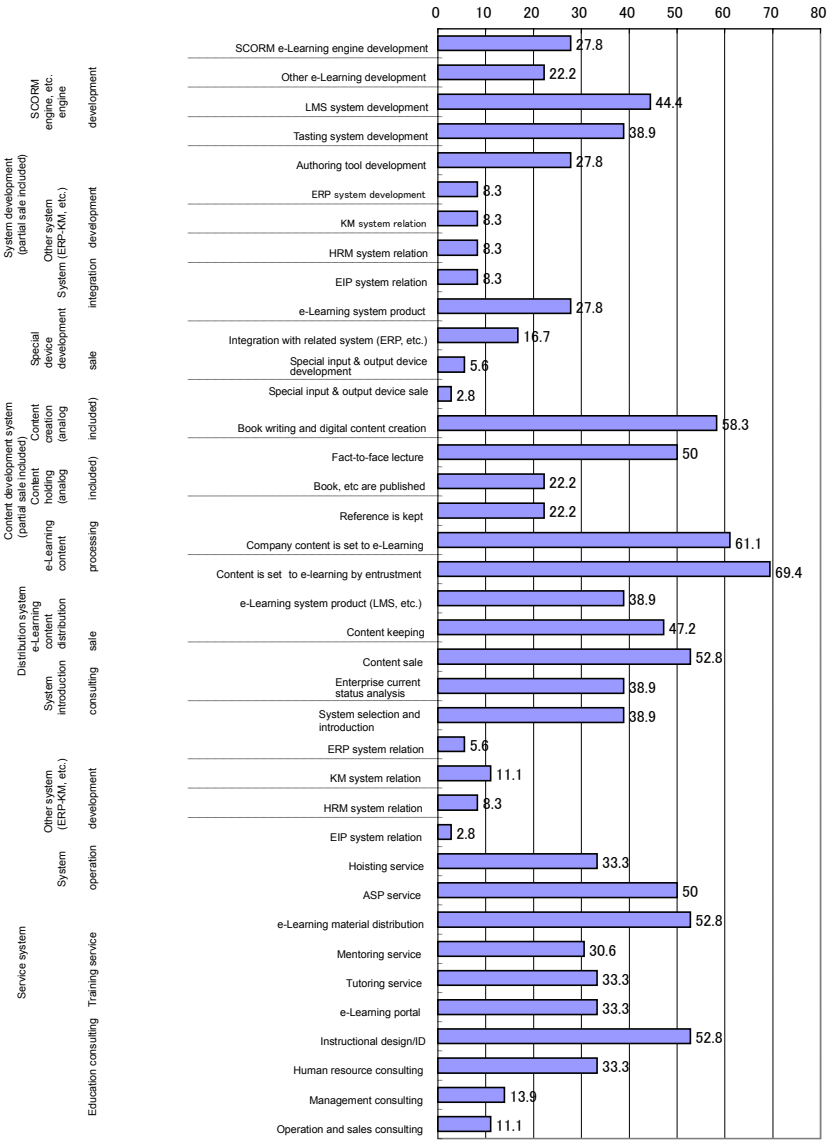



Figure 5-2 Work domain of vendor (36 vendors)

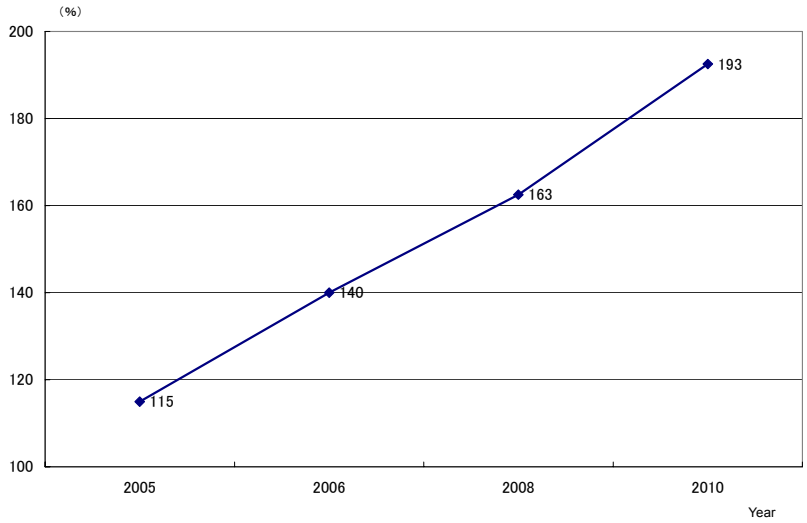
Source: e-Learning business survey (eLC 2005)

### 5.2.2 Current status and future perspective of e-Learning business

[1] Current status and future perspective of system business

If the perspective of sales growth ratio of system vendor replied by questionnaire survey is observed, it is prospect to become 193% in 2010 compared with 2004 (Figure 5 -3 ).

Many development products of system vendor are LMS (Learning Management System), SCORM engine, etc. and e-Learning engine, and they are major development products. Moreover, enterprise and higher education institute are becoming main users for enterprise and higher education institute is becoming main users for system products.




(Note): Perspective of sales growth ratio as 100 in 2004 (central value of growth ratio of enterprise replied growth ratio)

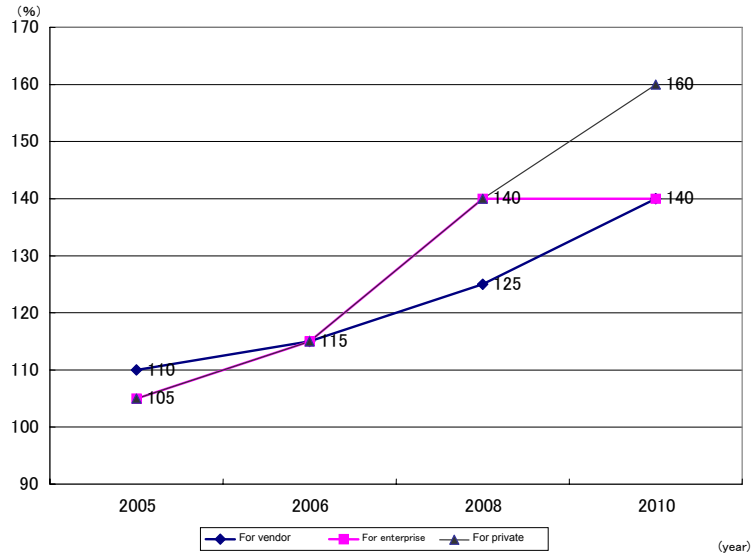
Figure 5- 3　Perspective of growth ratio of system vendor

Source: e-Learning business survey (eLC 2005)

[2] Current status and future perspective of content business

If the perspective of sales growth ratio of content vendor replied by questionnaire survey is observed, in ready-made contents, 160% and 140% are forecasted for private and for vendor and enterprise respectively in 2010 compared with 2004. While, in the order-made contents, 140% and 125% are forecasted for enterprise and for vendor respectively in 2010 compared with 2004 (Figure 5-4, Figure 5-5).

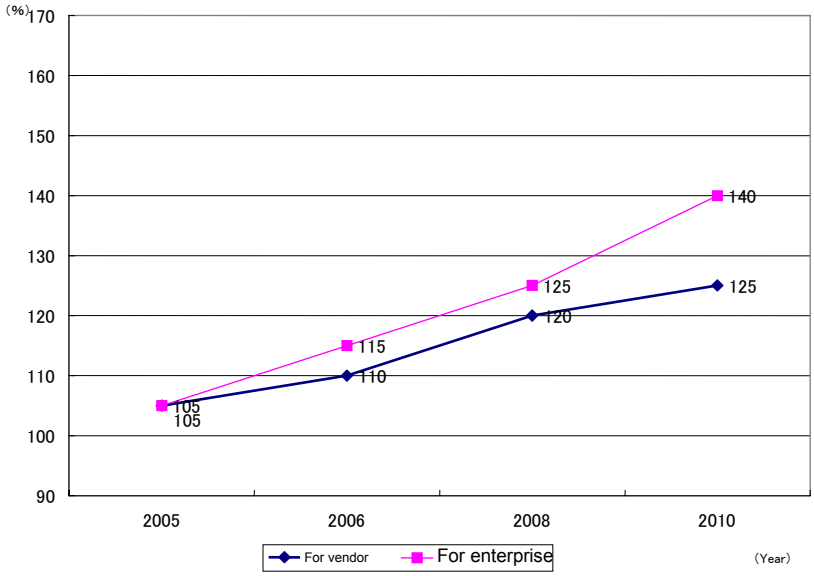
At present time, types of ready-made content and order-made content are mainly [IT computer] and [Business foundation], however ratio of other fields are raised in future, and it tends to diversify. Moreover, if major users on both fields of ready-made content and order-made content are observed, field of education in enterprise is main as present and future attended fields, however growth of higher education is becoming large as future attended field.




Note): Perspective of sales growth ratio as 100 in 2004 (central value of growth ratio of enterprise replied growth ratio)

Figure 5-4　Perspective of sales growth ratio of ready-made content vendor

Source: e-Learning business survey (eLC 2005)




(Note): Perspective sales growth as 100 in 2004 (central value of growth ratio of enterprise replied growth ratio)

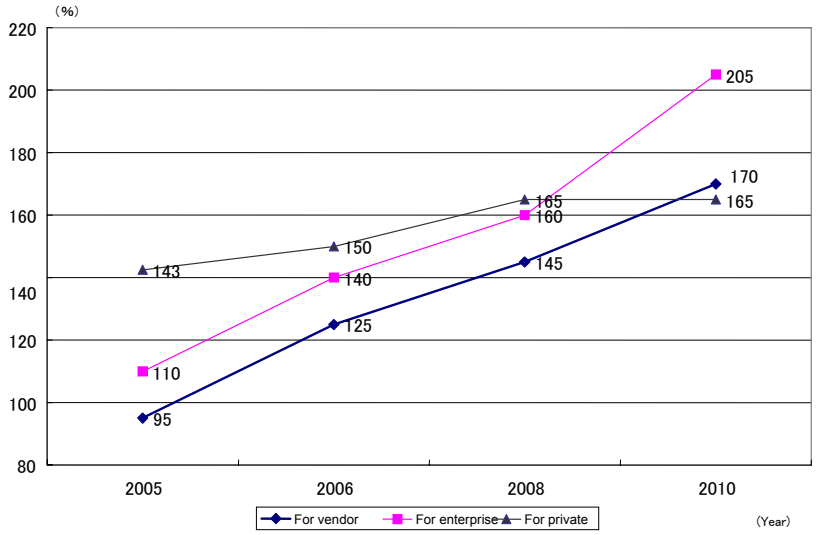
Figure 5-5　Perspective of sales growth ratio of order-made content vendor

Source: e-Learning business survey (eLC 2005)

[3] Current status and future perspective of service business

If the perspective of sales growth ratio of service vendor replied by questionnaire survey is observed, 205% and 170% are forecasted for enterprise and for vendor respectively but 165% for private that is leveling off in 2010 compared with 2004 (Figure 5 -6 ).

If type of service is observed, [IT computer] and [Business foundation] are increasing. Moreover, if service user is observed, the education in enterprise is highest, and future trend of it will not be changed.




(Note): Perspective of growth ratio as 100 in 2004 (central value of growth ratio of enterprise replied growth ratio)

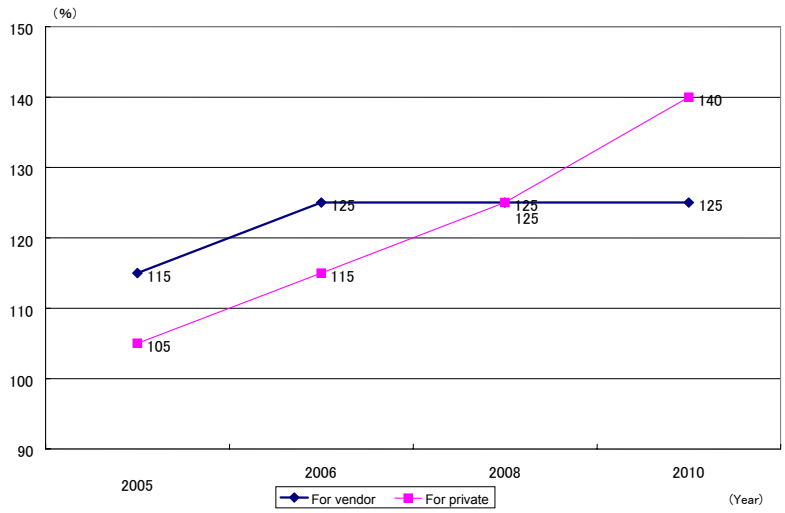
Figure 5-6 Perspective of sales growth of service vendor

Source: e-Learning business survey (eLC 2005)

[4] Current status and future perspective of consulting business

If the perspective of sales ratio of entire consulting replied by questionnaire survey is observed, presently, ratio for vendor surpasses that for enterprise, however the ratio for vendor will be becoming leveling off, and the ratio for enterprise is forecasted to extremely grow. 140% and 125% are forecasted for enterprise and for vendor respectively in 2010 compared with 2004 (Figure 3 -  ).

If the concerned field of consulting work is observed, [General knowledge and individual knowledge (own product, in-house requirement, etc.)], [Special professional knowledge (IT/computer, service, administration management, financing, etc.)] are increasing. Moreover, if the users of consulting service (client) are observed, business types of [IT related manufacturing (*means most of manufacturers other than IT)], [Information service], [Other information communication], [Finance and insurance], [Medical and welfare], etc. are increasing.




(Note): Perspective of sales growth ratio as 100 in 2004 (central value of growth ratio of enterprise replied growth ratio)

Figure 5-7　Perspective of sales growth of consulting

Source: e-Learning business survey (eLC 2005)

## 5.3 Trend and case of e-Learning business

### 5.3.1 Service and engineering trend of e-Learning

Until now, regarding the trend of e-Learning business viewed from vendor, the result of e-Learning business survey (eLC 2005) has been mainly observed.

While, under that demands of users such as enterprise, university, etc. that are major clients of e-Learning market are diversified, suppliers of e-Learning are performing various tackling in service and technology, in order to cope with their demands.

As recent trend, the following points can be mainly listed:

[1] Blended learning

Improvement and propagation of recognition level of the e-Learning in Japan has progressed up to a certain level, and in enterprise and university, assemble education and face to face study are not entirely substituted to the e-Learning but the Blended Learning that effective education and training are planned by combining the assemble training with the e-Learning has been settled. In previous questionnaire survey results, it can be understood that [Combination with conventional training] has been made much of.

Due to that, it is moving to direction to propose supply method of e-Learning system and contents that vendors have premised the blended learning. For example, it is not proposed from e-Learning introduction, and under that entire education, training and renovation are firstly improved and proposed by cooperating with consulting company, the e-Learning system and contents are to be proposed for the part that e-Learning feature can be used.

[2] Comprennhensive solution supply

As aforementioned, the e-Learning vendors were classified into system enterpriser, content enterpriser, service enterpriser and consulting enterpriser depending on the content of important business. However, it is generalized that enterprise who developed business in single field founded as e-Learning exclusive enterprise, develops business with several fields by showing trend converged into system integration under progress of e-Learning propagation. For instance, it is general that enterprise who specialized in as system enterpriser at the beginning becomes enterprise who develops business with several fields (that is to say, a side business).

While, for example, multifarious IT enterprises who newly participate in the e-Learning business are continuously increasing. The filed that can be covered by own company may perform comprehensive business development by cooperation with other company.

Thus, fence of classification of conventional e-Learning business has extremely become

low, and comprehensive service supply viewed from e-Learning user is expected.

While, as aforementioned, the e-Learning is not considered to be educational training and as can be observed in execution form of the blended learning, it is generalized that it is used by combining with assemble training, etc. as various educational training supply measure. Due to that, not only know-how for development and operation of e-Learning system but also ability of service supply regarding entire educational training is expected.

Thus, needs of comprehensive solution supply in system development/operation, and educational training supply are increasing, and a large scale of contract amount can be expected by advancement of contents. Due to that, vendors who aim at supply of comprehensive solution are increasing.

[3] Cooperation and mutual roll-on of educational institute and vendor

Fence of education institute and e-Leaning vender is becoming low. In the past, vendor style was mainly to support the education institute by system architecture and operation. However, especially in higher education field, an example that university, etc. supply e-Leaning technology and service as business start is also increasing. While, there is an example that vendor opens school as a link of educational business.

Furthermore, since educational institute and vendor jointly establish university and school business used the e-Learning, the fence of both parties are becoming extremely low, and relationship of competition and cooperation is being built.

[4] ASP service

Since initial introduction of e-Learning system comparatively costs, many enterprises hesitate to introduce the e-Learning. Due to that, in order to lower threshold e-Learning introduction for client enterprises, the ASP (Application Service Provider) service that the function can be used through internet without purchasing full set of e-Learning system is increasing. Currently, the contents supplied are diversified, and the function is also advanced.

Conventional major usage method of the ASP was to simply use existing contents, however style to supply platform that virtual education service is possible on internet is also increasing. For example, enterprises and various education institutes who have been performing training business of assemble training style do not newly build system for e-Learning supply, but new education service is supplied as mentioned above.

[5] Authoring simplification and rapid e-Learning

> Under rapid change of business environment, change of educational training needs sought for is also becoming fast. For example, in the field that necessity of update of educational contents such as IT education, MR education, etc are high, the needs that wish to speed up content creation and supply rather spending time and labor for digitalization and distribution of the contents are raising. Since more than certain cost and time for purchasing is required, enterprises who wish to create by own company of the contents that do not require complex learning process, are increasing.

In order to cope with these needs, development of authoring tool that is easy to use and that material can be semi-automatically created when pressing step, are progressing. Furthermore, vendor is tackling with measures that content upload and update can be easily done by the learning management system.

Furthermore, not only content creation but also simplification of distribution thereafter is

progressing. The system that can speedy perform the flow from content creation to distribution, is called as [Rapid e-Learning]. Feature of the Rapid e-Learning does not take time for content creation and supply, and is able to supply by immediately arranging to e-Learning material for presentation document and lecture content. There is also system that integral usage of e-Learning and communication system is possible so that both synchronous and asynchronous types can be easily used. Similar system existed in the past, however supply of service that convenience and low price were improved, is increasing.

[6] Job Aid by EPSS usage

EPSS (Electric Performance Support System) means to perform daily work support by electronic system. For usage method of this EPSS e-Learning, importance was pointed out in order to raise the effect. However, since many users took the e-Learning as a link of OFF-JT and alternation, practical tackling was limited. Recently, enterprises consider that educational training is not [Cost] but [Investment], and consciousness seeking for concrete effect is raising, and request to e-Learning system that work support system can be used is increasing. In the aforementioned Rapid e-Learning system, some function that is helpful for speedy of in-house communication has been provided, and the Job Aid may be proceeded by that. Furthermore, recently, usage of BLOG (blogger) in enterprises is progressing, and there is an example to use it as one measure of Job Aid.

In order to maintain competitive superiority of enterprises, it can be said that these tackling aim at realization of knowledge management of mutual supply and cooperative creation (to create with cooperation) of knowledge in organization but not only information.

[7] Middle and long period learner support system

This is not direct measure of e-Learning supply, however related information of learner such as learning history and question status is stored for a long time, and is the tacking to promote continuation of learning volition taking into consideration private intention and characteristics. Especially in university, data from entrance to graduation are managed in the gross, and advice of lecture of educational content and employment that students wish is performed. Moreover, enterprises are tackling to supply an opportunity with style of carrier intention of employees matched.

[8] Mobilization and ubiquitous of e-Learning

Actual example of mobile e-Learning expected from before has not been increased, however by widening approach of high performance of mobile terminal such as mobile telephone and blended learning, concept to use mobile tool as supplemental positioning of assemble training is gradually widening. Furthermore, in order to acquire the BtoC

market that exploitation was not progressed, tackling to supply of e-Learning service aimed at convenient use by mobile terminal is also increasing.

Moreover, in recent year, as can be observed in combination of iPod and iTunes that great stride propagation has been seen, use of rich content at mobile terminal is becoming possible by using with the mobile terminal and network service infrastructure combined, and expectation from conventional mobilization to advanced ubiquitous is raising.

In the case it is observed from e-Learning vendor, movement that the e-Learning contents created up to now can be used by the mobile terminal, is accelerating, and establishment of business model of [One Source, Multi Use] has been aggressively tackled.

[9] Broadband network and live distribution

Since propagation of the broadband network has been progressing and introduction has become easy, live distribution of lecture that has taken a serious view of presence, is increasing. This distributes lecture by 1 Vs many videos and slides (several ten person scale), and for example, this is used for events such as study distribution, school explanation meeting, entrance ceremony, etc. There is time limitation, however since it is useful for unified joint ownership and motivation improvement, it has been highlighted again. Furthermore, in addition to asynchronous function, system development that effective learning became possible by combining synchronous and asynchronous functions, has been progressing.

### 5.3.2 Arrangement and overview of business case

In order to seek for current feature and new tackling of e-Learning business, activity that tackles with the e-Learning as any business activities (both profit and non profit activities included) has been taken up as [Business case].

[1] Viewpoint of case consideration (PDS cycle)

In order to concretely grasp e-Learning introduction and usage, each case has been arranged and described by the following 3 viewpoints by referring to the [PDS (Plan-Do-See)] cycle.

Background, purpose and startup process, contents being performed and generalization and future view of e-Learning introduction are arranged in each stage of [1] Background and startup, [2] Execution content and [3]Generalization and view respectively (Table 5 – 1).

Actually, each stage may be complicatedly interwined, however 3 stages are to be roughly arranged as follows:

Table 5-1　Viewpoint of case consideration (PDS cycle)

| Each stage | Example of important item |
|---|---|
| [1] Background/startup | Background and purpose of introduction, startup, etc. |
| [2] Execution content | Execution content, operation method, etc. |
| [3] Generalization/view | Generalization, evaluation, issue, future view, etc. |

[2] List and overview of business case

The number of business case picked up this time is 4, and there are various cases such that a link of CSR activity like as Shiseido, that is activity as development of communication education like as TAC and Chuo Shuppan and that is tackled with as entire new business like as Toppan Printing. The following table shows major overview (Refer to [Part Ⅲ Case] for each case details).

Table 5-2　Business cast list

| Case No. | Name | Case point |
|---|---|---|
| ① | Shiseiso Corporation | A link of social contribution activity, [wiwiw] supporting return work of childcare holiday taker and life by internet is supplying. |
| ② | TAC Co., Ltd. | It is supplying qualification examination measure education by various medias　WBT, DVD、SD card, etc. |
| ③ | Chuo Publishing Co., Ltd. | Correction instruction has been supplied using network. |
| ④ | Toppan Printing Co., Ltd. | English validation learning course has been supplied by mobile phone as new Business. |

Source: Prepared by interview survey, etc.

### 5.3.3 Trend of e-Learning business viewed from case

Referring to e-Learning business trend and business case as observed, new feature movement for market expansion of the e-Learning can be arranged as the following 2:

[Tape A: Applicable expansion to new field]

As can be understood from the results of e-Learning user survey, major fields that the e-Leaning has been frequently used are IT education and language education. However, as for contents needed in future, there is strong request to seek for various contents. Recently, the fields such as medical, mental health and culture such as music and art that the e-Learning is used, are expanding. It can be said that this is not only BtoB market but also needs of BtoC market.

Shiseido is newly tackling with supply of learning opportunity that workplace return for childcare holiday is supported by internet under background of social request. This is

positioned as new style of social contribution activity using the e-Learning. Further, Toppan Printing has been performing mobile learning of learning by mobile telephone as business that launches to new field of which differs from their conventional business. This is not only launch to new field but it can also be said that it pursues novel business model.

[Type B: Improvement of educational quality and efficiency of management]

While the e-Learning has been constantly recognized and propagated in Japanese society, for e-Learning usage, interesting is raising in not only personnel education department but also in enterprise and school who supply educational training service. Up to date, it has been said that e-Learning propagation in BtoC market was suffering from leveling off, however while Japan is progressing as world leading broadband country, educational training service that has been supplied by conventional assemble education and communication education by post mail, is likely shifting to e-Learning system.

This is not only simple material digitalization and distribution but also may perform by being aware of renovation of existing educational system. TAC has been developing step by step of [One Source, Multi Use] service that one lecture content is supplied by multifarious medias taking into consideration learner convenience. Moreover, like as Chuo Shuppan, there is case to use the e-Learning for correction as measure to raise the value added of conventional communication education service.

As observed up to now, e-Learning activity is also expanding from conventional profit activity to non profit activity, and application to new field is increasingly expanding. Further, this has been aggressively used for improvement of educational quality and management efficiency.

Such 2 new featured movements can be arranged as follows (Figure 5 -8):

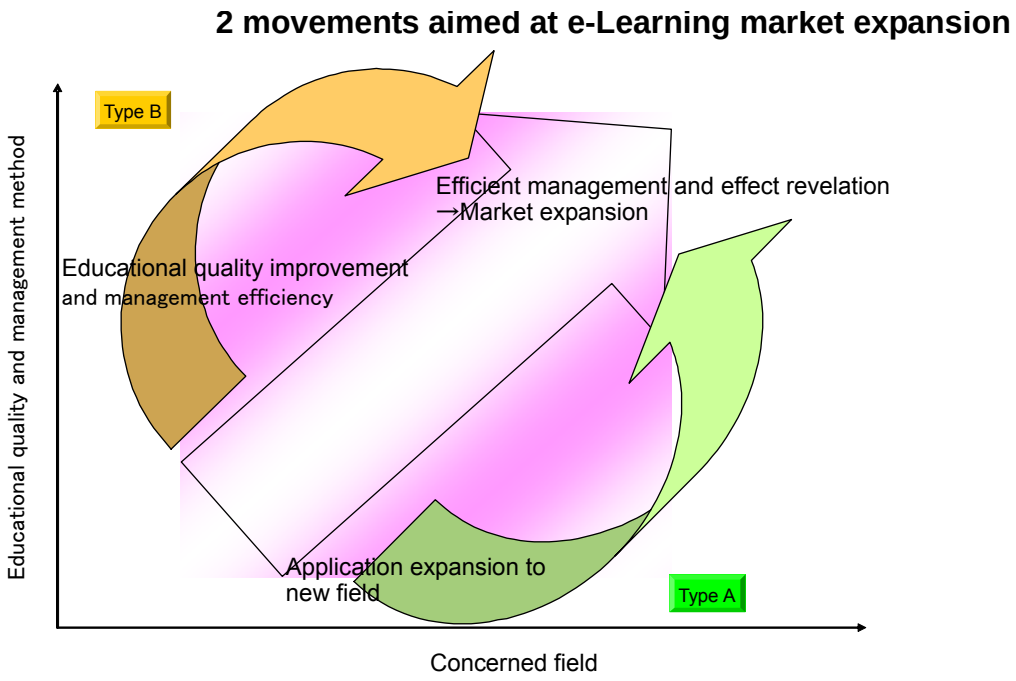



Figure 5-8　New feature of e-Learning business

2 new feature movements of the above e-Learning business is considered to proceed in future by receiving push of service and technical progress of the e-Learning.　As the result, the more effect revelation becomes clear, it will link to future market expansion.

# 6. System, technology and human resource upbringing supporting e-Learning

## 6.1 e-Learning platform and standard specification

In e-Learning propagation, it is important to reduce cost for system operation and to improve quality of information by standardizing information form to be used by e-Learning system. Here describes the current status of the platform and the standard specification of the e-Learning system.

### 6.1.1 e-Learning platform

Generally, the platform means hardware and software that are basis of computer system, and the content that means the terminology of [Platform] limited to e-Learning field is various. Like as HRM (Human Resource Management), there is a case to handle as [Related system] in this chapter, while it means only the LMS (Learning Management System), and the definition differs depending on users. As one example, there are description regarding function and definition of the LMS and LCMS ((Learning Content Management System) on homepage of a American leading e-Learning consultant Brandon-Hall.

Here, the system included some compound function regarding several stages in e-Learning cycles (Skill analysis, material development, learning (operation management) and evaluation) shall be called as platform.

Concretely, LCMS, LMS and cooperative learning, etc. shall be considered as typical cases, and each function is to be explained. If function of each platform is to correspond to e-Learning cycle, it will be generally as shown in Figure 4 – 1.

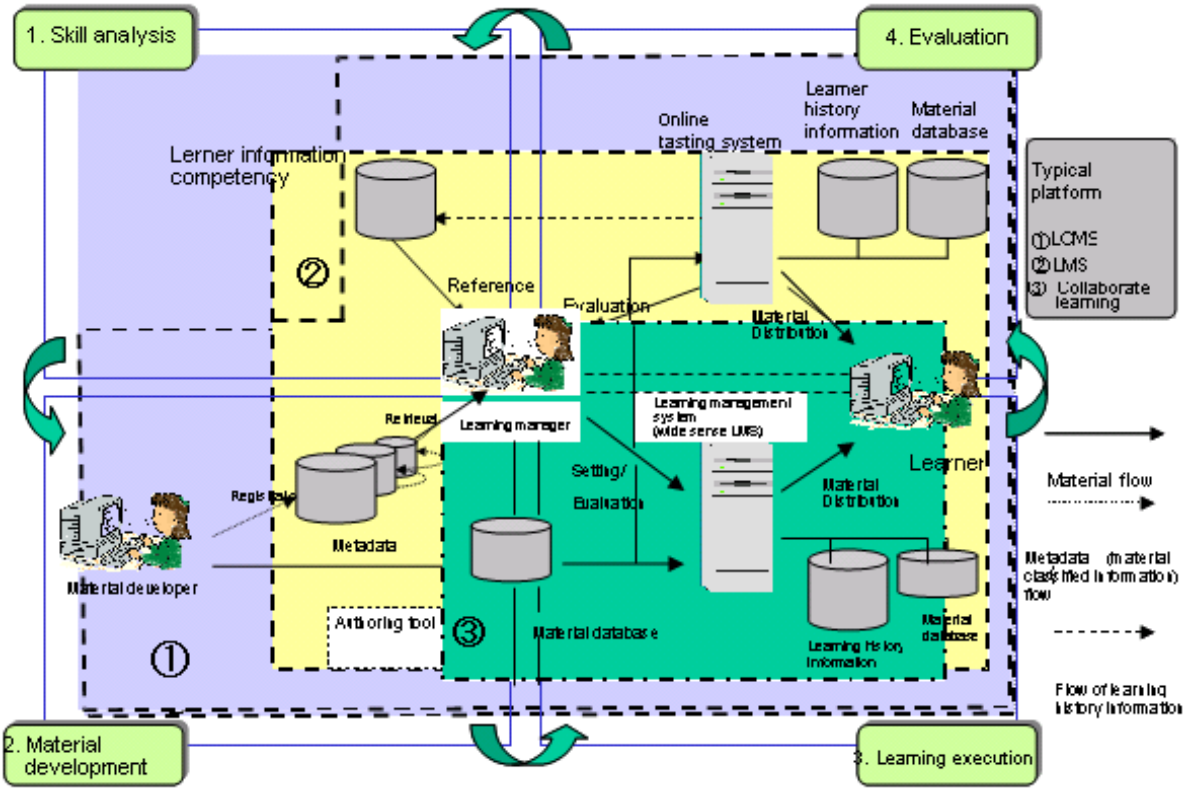



Figure 6 – 1 Platform required for execution of e-Learning (typical case)

### 6.1.2 Standard specification

[1] Overview

In the e-Learning propagation, it is important to low system operation cost and to improve information quality by standardizing information format to be used for system. For example, the content is one of information to be used for the e-Learning. If this content format differs from every each vendor, data conversion cost generates when the content is transferred to other vendor system. If the format has bee standardized, such extra cost does not generate, and the content vendor can concentrate to improvement of content quality. If the format of attribute information/score and content of learners has been also standardized, information exchange between dispersed e-Learning systems and between e-Learning and other application system, become easy.

The SCORM (Sharable Content Object Reference Model) 2004 that is latest standard specification of the e-Learning content has been developed by ADL in USA as succeeding specification of SCORM1.2. A largest feature of SCORM2004 is point that method to describe dynamic behavior of content corresponding to level and understanding status of learners has been specified. As this description method, the Simple Sequencing specification developed by IMS has been employed. By this, standard methods for that content creator describes content motions such as [If exercise question was not passed, review is suggested] and [Explanation and question are repeated until learning target is

obtained], have been supplied, and motion intended by content creator can be reappeared by different LMS. Furthermore, it is feature that content can supply GUI for that learners enter commands such as [Go to next] , [Return], etc. but not LMS, and that freedom of GUI design of content creator have been improved. SCORM2004 was launched in January 2004, and addition and revision were made in July 2004 and November 2004.

### 6.1.3 Standardization measure status in Japan and each AEN country

In eLC, in order to propagate and promote the e-Learning of domestic and each AEN country, questionnaire survey was performed on eLC member (100 companies) and non e-Learning related business enterprises of non eLC members (50 companies). Further, the survey was also performed on e-learning responsible business persons and development managers, and eLC members (30 responsible business persons/33 development managers) and non eLC members (10 responsible business persons/7developement managers replied 63 persons in total and 17 persons in total respectively.

When specification that employed by 23 companies who are performing development, SCORM1.2, SOCRM2004 and non standard specification are 11 companies (48%) highest, 5 companies (22%) and 5 companies (22%) respectively, and 70% is performing development by taking into consideration the standard specification. (Since SCORM1.2 correspondence was approximately 52%, standardization correspondence is largely increasing) Furthermore, The same survey was performed on members other than eLC, but the number of reply was only 10 which is reference data, and standard specification compliance and non standard specification compliance are 3 companies and 4 companies respectively, it became the result that eLC members to promote standardization were more than others.

In content development to operate by different several LMS, the number of companies who considered to operate by different several LMS by employing the standard specification such as SCORM in advance was 14 (100%), and movement to maintain interoperability along with the standard specification was observed.

For tackling with SCORM2004 that is latest specification, the concerned case is 22% (3% in last year) and scheduling case within 1 or 2 years is 48%, resulting in 70% in total, and employment of SCORM2004 is being genuine.

Table 6 – 1　Engineering trend of standardization, etc. in Japan

| Question content | Replied item | This year | Last year |
|---|---|---|---|
| Major standard specification for development | SCORM | 70% | 52% |
| | Non standard specification | 22% | 33% |
| Correspondence to SCORM 2004 | Already corresponded | 22% | 3% |
| | Will correspond with 1 or 2 years1 | 48% | 48% |
| | Not scheduled | 22% | 36% |
| | Not replied | 8% | 5% |
| Content development that operates by different LMS | Standard spec. such as SCORM was employed for operation by both LMS | 100% | 41% |
| | Special LMS corresponded spec. was remade for operation by other | 0% | 41% |
| Content that development is scheduled this year | Non distribution purpose | 73% | 59% |
| | Distribution purpose | 27% | 41% |
| | SCORM correspondence among distribution purposes | 41% | 50% |

### 6.1.4 Interoperability problem in Japan and each AEN country, grasping of SCORM of introduction status, etc.

For the interoperability problem being occurred at e-Learning site, questionnaire survey was performed on eLC member enterprise (approximately 100 companies) (number of effective reply: 58 companies). In previous survey (January 2004), types of failure were 33 to 58 failures. In this survey (December 2004), new type of failure was 1 to 34 failures, and others were known type of failure. This means that all sorting of failure may be almost completed. If so, reoccurrence of failure can be prevented by surely performing prevention measure planned by eLC. For overseas, questionnaire was replied from 5 countries , 8 companies among members of AEN-WG1, WG2 and ALIVE. 6 failures were reported, however new type of failure was zero (0). For failure cause, SCORM specification infringement was more than 70% highest, and it is considered to be originated in [SCORM specification is difficult to understand] and [Vague impression]. As eLC prevention measure, it is coped with preparation of SCORM supplemental manual, public relations, upbringing of SCORM assessor qualifier, etc.

For correspondence status to SCORM specification of product, about half of vendors employs SCORM1.2 in Japan, and about 20% does not comply with the standard specification. While, 75% and remaining 25% are complying with SCORM1.2 and SCORM2004 overseas respectively. For correspondence status to SCORM2004 that is latest specification, domestic corresponded case is 3% and scheduled case is 48%, resulting in about half, while overseas corresponded case is about 40% and scheduled case within 1 or 2 years is remaining 40%. Overseas questionnaire reply was less number of reply than domestic one, and it was resulted in progressing than domestic one for e-Learning advanced enterprise in each country.

## 6.2 e-Learning related system

e-Learning related system does not always exist as information system, however it imagines a group of specification and technology that affects to development of content and platform that are e-Learning system of narrow sense, support system, related system, etc.

Concretely, mechanisms of standard specification, element technology, human resource upbringing, etc. are assumed.

### 6.2.1 e-Learning related application

The e-Learning does not independently use as system for learning training, and in the case viewed from the e-Learning, further effect may be able to exhibit by linking data with other system (hereafter related system) located surrounding or by functioning as one bundle of system.

If cooperation status with e-learning related domain in user enterprise is observed,

[Cooperation is not considered for a time being] is 39%, following [Cooperation is under study] 28% and [Not interested, not scheduled] 13% (Figure 6 – 9). Cooperation the e-Learning with other system in house has been partially performed by personnel system, etc., but it has not totally progressed and is severe perspective in future. However, in order to make the e-Learning introduction penetrated, it is mandatory to integrate with other IT system and to raise effectiveness, and gap with recognition of such enterprises is large issue.

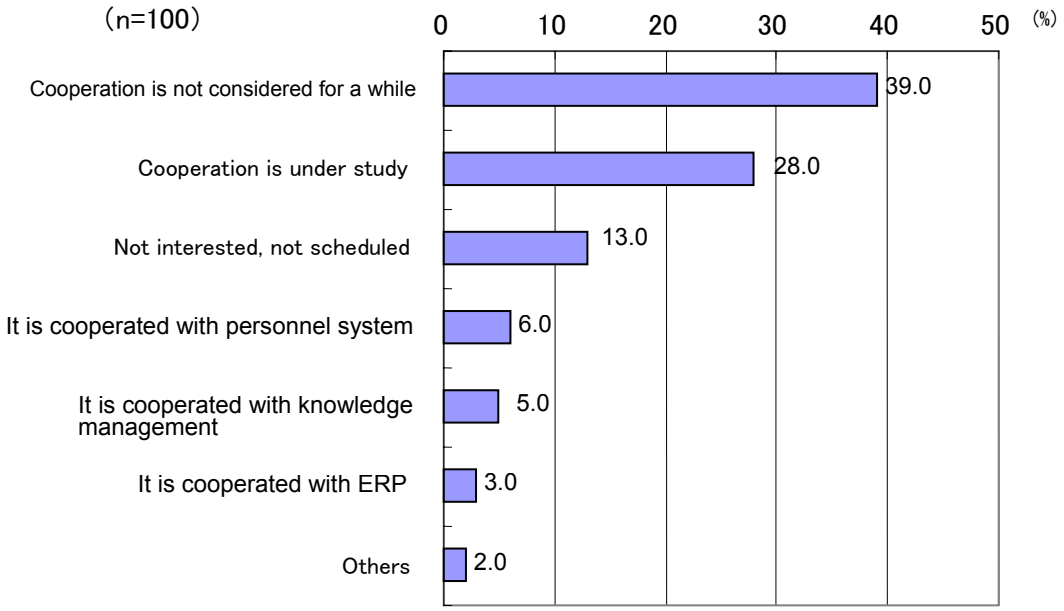



Figure 6– 2 e-Learning related domain and cooperation status in user enterprise

Source: e-Learning user survey and enterprise (eLC 2005)

Invention used these is expected by development of the element technologies such as internet connection by groupware and mobile terminal.

With the e-Learning connected, there are HRM system (Human Resource Management), KM system (Knowledge Management), etc. as existing system that revelation of further effect can be expected.

If observed from the e-Learning system, these are systems that locate surrounding the e-Learning through LMS, etc. However, from the viewpoint that various functions exhibit by cooperating with the e-Learning, it shall be called as [Related system] of the e-Learning.

The e-Learning system (narrow sense) is expected to become mechanism that raises effect as a whole, by planning data joint ownership between these related systems and system joint ownership and unification.

The system arranged and accumulated concept that called as [Skill standard] has not been always maintained as information system, however since this specifies the e-learning

(for example, skill standard is referred by skill evaluation stage), it shall be included in this concept.

### 6.2.2 Element technology

Future trend of the element technology that largely affects to next generation e-Learning was summarized.

Regarding future hopeful technology, simulation and groupware, virtual reality and mobile phone related technology are considered to be hopeful as each element technology that raises the interactivity of the e-Learning, as technology that raises impression force of the e-Learning and as technology that raises freedom of the e-Learning (Learning during movement is to be possible) respectively.

Furthermore, for the e-learning support system, actual status survey result regarding needs to the support system was stated as well as [Copyright management system] that is typical support system was also stated. Although contents and platforms are not the e-Learning itself, it is located surrounding the e-Learning system (narrow sense), and there are systems to supply various functions of easier usage than the e-Learning (merit for users) and for much easier management (merit for management and manager).

The system equipped with such functions, was to be called as the support system. Product of the support system has not been progressed like as platform and various tools, however it is the field that progress of future systemization is expected.

## 6.3 Human resource upbringing

As for various elements supporting the e-Learning, not only system and technology but also mechanisms of human resource upbringing that operates and manages content development, its support system and related system are important. Here summarizes actual status and trend of job type, mechanism, etc. that are expected as human resource image supporting the e-Learning.

### 6.3.1 Human resource current status and human resource image to be expected

[1] Human resource current status

In the e-Learning related human resource, several job types coping with each stage of e-Learning cycle of skill analysis, material development, learning (operation management) and evaluation, exist (Table 4 – 20). Moreover, if general condition of various job types is observed, it can be found that number of sales personnel has been increased. Further, regarding sufficiency status by current job types, it can be found that insufficient feeling of consultant, system builder, sales personnel, producer, etc. is strong.

If human resource field that wish enforce job types of e-Learning in future is observed, enforcement intention to human resources of producer, consultant, system builder, etc. is

becoming strong (Figure 6 – 17). The e-Learning introduction coped with user needs is considered to accelerate in future by sufficient enforcement of such human resources.

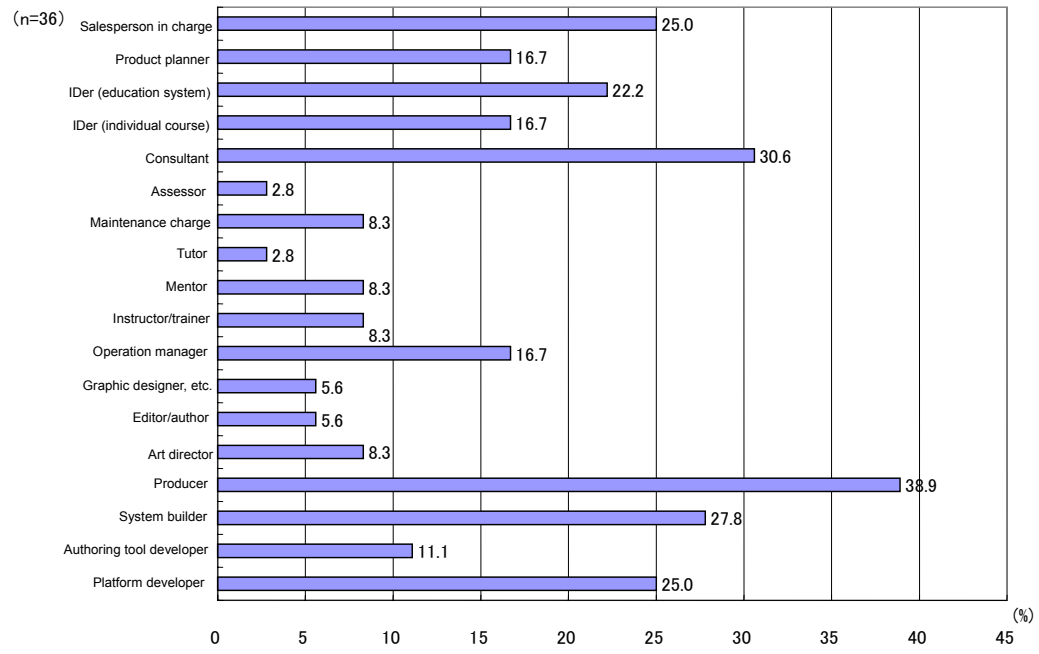



Figure 6 – 3　Job type that enforces employment in future

### 6.3.2 Mechanism for upbringing human resource to be expected

In order to efficiently lead introduction process of the e-Learning and make the effect perfect, it is sad that upbringing of e-Learning professionalist who starts instructional designer, is immediately required. However, in Japan, since mechanism to make upbringing such professionalist has not been established, examples of e-Learning introduction of high quality that contributes to business is still small. Taking into consideration such status, e-Learning Consortium Japan has established the e-Learning Professional (eLP) Training Committee, and execution of training course (eLP training course) of [Professional knowledge that enterpriser relating to the e-Learning should have, is systematically and continuously supplied and immediate helpful skill at work site is developed].

The eLP training course has been developed based upon unique eLP job type definition that referred the concept of British CeLP (Certified e-Learning Professional), competency map and training course syllabus. In the CeLP, upon [Online learning is the learner-centric. Therefore, when training is performed by online, when support is received by online and when online learning material is developed, new skills are required for professionalist], the following elements are required as new skills of professionalist who involves in the e-Learning.

- Skill that understands possibility of technology
- Skill that optimum media for trainee can select

- Skill of e-Learner-friendly instructional design
- Skill that specification of own work contents is determined and created
- Skill that supplies support to remote area trainee and maintains motivation
- Skill that efficiently manages e-Learning operation

The e-Learning professionalist of the CeLP who has above new skills, has five job types such as tutor, trainer, developer, manager and consultant. The following 6 items are required as basic knowledge:

- Analysis of trainee needs
- e-Learning overview
- Internet overview
- Adult learning overview
- e-learning project theory e
- e-Learning team management

Further, [e-Communication] abilities to realize [Real communication in virtual classroom] are required for tutor and trainer.

By referring to the CeLP, the eLP has listed 3 job types of [Manager], [Expert] and [Tutor] at user side and 4 job types of [Consultant], [Learning designer], [Content creator] and SCORM engineer] as professional job of the e-Learning in Japan, 7 job types in total. The definitions of each work are as follows:

- Manager : Responsible person of e-Learning introduction in user enterprise
- Expert: Person in charge of e-Learning introduction in user enterprise
- Tutor: Supporters (tutor and mentor) of e-Learning learner in user enterprise
- Consultant: Supporter of planner (manager) of e-Learning introduction
- Learning designer: Supporter of person in charge (expert) of e-Learning introduction
- Content creator: Content developer received instruction of learning designer
- SCORM engineer: Leader of SCORM content development

In the eLP training committee, the year of 2005 was named as pilot course trial period, questionnaire survey was performed at the e-Learning Conference 2005 Summer (held at Tokyo Big Site Conference building in July 20 – 22 2005), and 8 course such as [Instructional design guide], [Learning mental guide], [Mentoring technique] and [e-Learning strategic planning technique], etc. that were most desired holding from 35 training courses that were subject to these 7 job types, were selected and performed. The [eLP course completion certificate] was issued every each training course.

Based on the 2005 results that grasped sound needs of user enterprise and vendor enterprise, the eLP Training Committee has started preparation for [System creation that can continuously supply training course of high quality] and [Future qualification validation]

since 2006.

## 6.4 Direction for heading of e-Learning

With progress of maintenance of system, technical progress and human resource upbringing of the e-Learning, necessity to review new direction of e-Learning usage method has been arisen.

### 6.4.1 Two Concepts for e-Learning usage

In basic concept of e-Learning usage, there are 2 concepts such as [Method that the e-learning is used for aiming at cost down of education, many program supply, early completion of education, etc. as alternative method of conventional education method] and [New usage method that can be performed only by the e-Learning is exploited].

Now a days, many enterprises are in position of usage level of the e-Learning as alternative method of conventional education technique. If the e-Learning as past alternative method is considered, it is well known to be seen as if e-Learning weak point is actualized. For example, there are weak points that learning strain can not be maintained , or since learner thinks learning can be done anytime, he or she does not start learning. Many e-Learning related personnel have executed various correspondences to cover these weak points as improvement activity to reduce them.

As the first step of e-Learning development, it is unavoidable way to conquer e-Learning weak point and to raise e-Learning penetration as alternative method of such conventional education technique. The efforts that steady usage method is accumulated by such usage manner as know-how and that achievement is made at educational site, are extremely important experience as first step process of e-Learning usage, and it is mandatory process for using the e-Learning.

However, it can not be said that the efforts to seek for only volume expansion of such usage method without exceeding zone of aforementioned e-Learning usage method sufficiently brings out the possibility of the e-Leaning.

### 6.4.2 New target for e-Learning usage

Behavior to notice that only e-Leaning can be achieved, from step to use the e-Learning as alternative technique of conventional education, is target that has a large possibility that e-Learning related personnel can be challenged by next step. The target is to contribute to competitive power enforcement of enterprise and educational institute by the e-Learning. If an advanced usage method in USA is bench-marked, many cases that has exploited new usage method that can be achieved only by e-Learning, can be observed. The targets of [New usage method that can be done only by e-Learning] are [Productivity improvement in

office] and [Satisfaction of client and employee is to increase]. This target is also to exploit an opportunity that raises application level of education in enterprise in the present information society that importance of knowledge asset of a coined word of [Knowledgeism] is increasing. The system that puts up this target is not only conventional feeling learning function but also promotes information joint ownership of tacit sense that does not depend on form sense, information directly contributing to works of Job Aid, etc. can be obtained, communicational functionality is raised and new function required for work execution ability improvement in information society is included.

In the higher education, from usage method stage that played strategic role as the e-learning supporting the past teaching method, development of new teaching method of social structure that many systems and technologies that the e-learning has, strategic e-Learning introduction that new student class by management of high quality educational program with joint ownership of educational contents, etc. can be expected.

It will take time that worker's productivity is raised and that actual society along with the doctrine of [Learning organization] that is organizational environment promoting private growth, is changed, or there are many cases to react to society as small power by partial professional group. Even the target is same, sales of ubiquitous equipment, remarkable progress of internet technology of Web2.0 and new technologies such as propagation of powerful search engine and broadband are pushing social changes by involving many people with enthusiasm. The point of argument that the change is lead to proper behavior is [Learning organization] studied from large viewpoint. Up to date, the e-Learning has been likely observed as educational tool, however it is necessary to make an effort so as to properly grow as function that the e-Learning contributes to society.

Such new e-Learning target is domain neighboring knowledge management that IT industries are also being studied, and it will be new competition in good meaning of which group can be built by; organization, organization for working private and learning student, or system.

# 7. Policy and law related to e-Learning

## 7.1 e-Learning in IT new renovation strategy

[e-Japan strategy] aimed at IT foundation maintenance (January 2001) and [IT new renovation strategy] succeeded [e-Japan strategy Ⅱ] (July 2003) made much of utilization were planned in January 2006. This strategy has been pursuing structure renovation, and important policy has been worked out from viewpoint of serious consideration of user, living person and enforcement of international competitive force. The e-Learning has been made much of in order to realize [Fruitful life through lifetime] (Table 7 – 1).

Table 7 – 1 Important policy in IT new renovation strategy

| Target | Important policy |
|---|---|
| Pursuant of IT structural renovation power | |
| Medical structural renovation by IT | 100% online of recept |
| Environmentally considered society used IT | Efficient use of energy and resource by IT |
| Safe and peaceful society that is proud of world | Damage reduction by disaster information supply by ground digital |
| World safest road traffic society | Traffic accident prevention using ITS |
| World convenient efficient electronic administration | Online application ratio 50% achieved |
| Competitive force enforcement of enterprise by management establishment | Enforcement of cooperation between divisions and between enterprises by IT |
| Fruitful life through lifetime | Usage of tele-work and e-Learning |
| IT foundation maintenance | |
| IT society universally designed | IT development promotion that everybody peacefully uses and receives benefit |
| Infrastructure maintenance without digital divide | Ubiquitous that can be used anytime and anywhere |
| World top peaceful IT society | Eradication of cyber crime of injustice access, etc. |
| Human foundation establishment viewed next generation | 1 PC per 1 teacher and moral education promotion |
| High IT human resource upbringing for worldwide | Installation, etc of high IT human resource upbringing institute |
| Promotion of R & D for foundation of next generation IT society | Planning of middle and long technological strategy |
| Transmission to world | |
| Japan's presence improvement in international competitive society | Information hub that bears world top wing |
| International contribution by supply of issue solution model | Contribution to Asian countries by IT |

Source: From [IT new renovation strategy] overview

Current IT strategy has shifted policy pivoting foot from hardware maintenance to substantiality of software for building fruitful and safe society, and e-Learning usage has been also using in the context.

If e-Learning development by policy field up to date is shown, it will be as shown in Figure7 – 1.

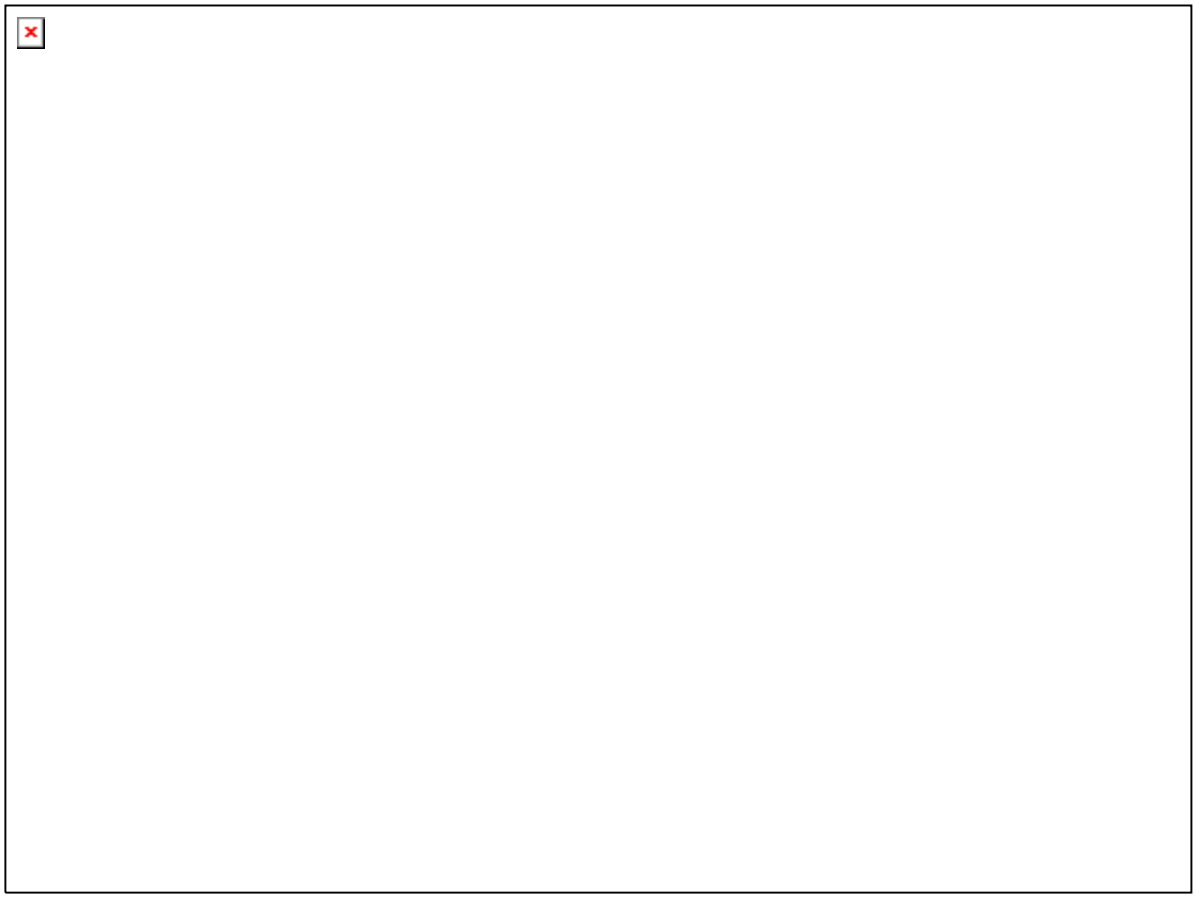


Figure 7 – 1　Development of e-Learning related policy by field

## 7.2　Trend of e-Learning related policy by field

### 7.2.1　Education of social member and employee

In this field, training for ① IT related human resource upbringing, ② Management support business and ③ Job hunter and worker have been performing by the Ministry of Economy, Trade and Industry, the Ministry of Education, Culture, Sports, Science and Technology, and the Ministry of Health, Labor and Welfare, etc.

Since the purpose of [① IT related human resource upbringing business] is especially to plan competitive power enforcement of IT industry, propagation of index (IT skill standard) clarified and systemized practical level of IT service, execution of information processing engineer examination, upbringing of security engineer, etc., are major policies. On the contrary, in [② Management support business], tackling of human resource upbringing that can support architecture and introduction in order to realize management target and propagation of knowledge of finance and taxation required for enterpriser, have been developing. [Life finance easy e-Learning] by the Committee of Financial Public Relations] and Web-tax TV by the National Tax Administration Agency, correspond to.

In [③ Job hunter and employee training], new development is observed by [Kusanone (Grass root) e-Learning] started by several government authorities. In 2005, in order to supply opportunity that can comfortably learn knowledge and business skill that are helpful

for employment and job, youth, freeters (freelancers), employees of small and medium enterprise, etc. have developed the learning contents of business skill and communication skill that directly connect to improvement of working ability, as well as the model business that builds and demonstrates service supporting user learning, was performed. The service supply period is 5 months, and 8 courses for about 4,000 trainees, 80 hours learning program and trainee support service by about 100 learning advisors had been supplied, and the completed persons are about 2,400 (completion ratio: 60.0%) (Table 7 – 2).

Table 7 – 2　Overview of Kusanone (Grass root) e-Learning model business

| | Consortium name (Typical body name) | Learning program | | Overview (learning target, etc.) |
|---|---|---|---|---|
| 1 | SSN maintenance business body (SST Co., Ltd.) | Ⅲ | Business skill learning course for sales person | Learning target: To learn sales keys of basic knowledge regarding sales activities such as sales activity overview, preparation before sales activity, marketing technique, business talk proceeding method for fresh sales persons of sales activity and sales of company product and service.<br>・To learn smooth communication skill through efficient talking and listening methods.<br>・To learn skill that can use knowledge for company product by actual sales activity.<br>・To learn skill that can appeal company product compared with competitive products. |
| 2 | Kusanone (grass root) e-Learning consortium (Proceed Co., Ltd.) | Ⅱ<br>Ⅳ | Sales and service skill | By having basic knowledge regarding learning target and service, practical know-how for selling company product and service can be learned and used.<br>・Knowledge regarding company product can be obtained.<br>・Sales person criteria that has good feeling required for service is understood.<br>・Basic measure for claim is understood, and it understands that claim measure becomes opportunity point. |
| | | | HRD skill | To learn basic knowledge regarding in-house education (HRD) minimally required for planning and operating learning target and company educational system.<br>・Basic concept required for company educational system planning is understood.<br>・Basic concept required for educational training work is understood. |
| 3 | Kusanone (grass root) of Chamber of Commerce, e-Learning business committee (Chamber of Commerce Of Japan) | Ⅰ<br>Ⅱ<br>Ⅲ | Business person basis | 1) To learn communication basis in knowledge, skill and business that youth to be employed is required by enterprise society.<br>2) To arrange and check business knowledge and skill that person being employed learned work (OJT) in past. |
| | | | Sales position basis | 1) Person who has basic knowledge and skill as business person, learns basic knowledge and skill required for sales position.<br>2) Person who engages in sales position learns practical know-how and usage for selling company product and service. |
| | | | Operation position knowledge | 1) Person who has basic knowledge and skill as business person learns basic knowledge and skill required as operation position.<br>2) Person who engages in operation position learns practical know-how and usage for selling company product and service. |
| 4 | Regional software center committee, e-Learning research association (Furukawa Software Center Co., ltd.) | Ⅳ | Strategic training planning<br>Human resource upbringing curriculum | ・To understand consciousness of enterprise management strategy.<br>・To understand basis of instructional design.<br>・To understand target management linked to daily management for educational need resource.<br>・To learn coaching useful for daily management.<br>・To understand basic knowledge of educational evaluation technique. |
| 5 | TEPCO e-consortium (Carrier rise Co., Ltd. | Ⅰ | Working basis and business communication | Learning target: To learn basis that can take play in industrial fields by brushing up mind as business professional and skill for performance raise.<br>Chapter 1: Own existence value of [Why do we work?] and [What does it mean get job?] is obtained, and role that aggressively contribute to team is cleared.<br>Chapter 2: In order to smoothly communicate at various scenes of business, social member basis (model) is trained.<br>Chapter 3: To learn job methods (report, cooperation, consulting, time management, morals, etc.) that builds reliability. |

Besides this, in [My job hall] site of the Employment and Ability Development Institute, 2 types of e-Learning courses such as [Foundation of employment activity] concerned to students/job hunters and [Foundation of carrier consulting for youth] concerned to person in charge of employment in university, junior college and college have been provided.

### 7.2.2 Public worker training

Regarding the public worker training, the e-Learning is introducing during review of training, motivation work and system.

The board of governors of chief information officer (CIO) of each government authority determined [Review of training, motivation, work and system] of public worker in June 3, 2005, and for the e-Learning, since busy staffs whose training and motivation opportunities are limited, are possible to take lecture without limiting place and time, it is extolled to promote usage. The National Personnel Authority has planned the guideline for performing the e-Learning training, and is to perform environmental maintenance.

In local public worker training, for example, according to 2006 training schedule of

autonomy university, regarding [Local autonomy system] and [Local public worker system] concerned to the local public workers who can not participate in lodging training, the e-Learning used internet, etc. is scheduled to introduce. In the [Japan Academy of Municipal Personnel], the e-Learning has started to introduce for pre-learning of [Guide and application of law practice] subject from January 2006.

### 7.2.3 Higher education

In [Modern educational needs support program] for supporting superior university education, [Development of e-Learning Program aimed at human resource upbringing based on needs], has been listed as one of themes. There are educational programs that perform development of language educational program, remote practice in the field of care and development of IT material, and 14 programs including joint application in college have been selected in 2005.

In the National Institute of Multimedia Education (NIME), demonstration business and propagation promotion business of various e-Learning in higher educational institutes have been performed, and [Space Collaboration System (SCS ) usage seminar] was held in May 2005. This has been continuously planned in 2004 to promote usage of the SCS as well as to support self motivation of university teacher and staff. Further, [Practical cases and various issues in international development of higher education] of the second international remote education forum was held in January 2006, and practical cases and various problems of international remote education exchange in Japan based on IT usage survey in the international remote education promotion were explained, and education and communication method in the higher educational institute were reviewed.

### 7.2.4 Elementary and secondary education

As for the e-Learning related policy in elementary and secondary education, this is roughly classified into policy of facility maintenance, policy for teachers as human resource upbringing and policy for students.

As for the facility maintenance, in addition to maintenance for past computer schools, substantiality of elementary school computer room and maintenance of computer in normal room, special room, etc. have been progressed. Moreover, for the internet connection, switching to high speed line has been progressed.

In policy for teachers, development and supply of e-Learning training system have been performed, and teachers can learn IT skills required for subject instruction at free time. The computer usage ability of teachers by these training, etc. has been yearly raised.

While, as for policy for students, [IT human resource upbringing project] has been performed from 2004.

### 7.2.5 Lifetime learning

In the field of lifetime learning, [L net] has been working since July 1999 as the educational information satellite network of the Ministry of Education, Culture, Sports, Science and Technology, and the information regarding education, culture, sports and scientific technology is directly transmitting nationwide using the satellite communication. As for receiving stations, 2000 stations for nationwide social educational facilities, schools, etc. have been maintained.

In the local autonomy, there is an example of Toyama Internet Civil School that new education used internet and social activity system [Internet civil school] were in earnest and firstly operated nationwide. The Toyama Internet Civil School is a model of the e-Learning business in nationwide each area such as [Setagaya e-collage], (Setagaya-ku Tokyo), [Ohgata school] (Ohgata-shi Kochi), [Wakayama internet civil school], [Tokushima internet civil school], [Tokyo e-university], [Toyama e-university], [e-civil school] (Kanagawa), etc.

### 7.2.6 Copyright related policy

Due to the IT age, past copyright has been also revising corresponding to the IT age. In relation to the e-Learning, [Taking into consideration with change of copy distribution, requirement of technical protection method is reviewed] related to the copyright article 35 was performed, and was announced as copyright sectional committee report of the Agency for Cultural Affairs.

In this report, especially reports of [Transmission of On-demand material] and [Copy is stored in server] were made, and an opinion that it is suitable to review after concrete proposal from educational administration and school education related personnel, was made.

### 7.2.7 Private information protection related policy

The related 5 laws of private information protection law was enforced from April 1, 2005. Since possibility including private information in the information handled by the e-Learning is high, even in the civil organization, in order to give policy whether privacy is suitably protected against users of service on Web site and internet, the validation system has been established. There are [Privacy mark system] of the Japan Information Processing Development Corporation ], [Private information protection mark] of the Nippon Information Communication Associations, etc., and the number of validation acquisition is rapidly increasing.

## [Reference] How to understand e-Learning market scale in enterprise education

**<e-Learning market scale assumption in enterprise education>**

Various assumed values for e-Learning market scale have been published. In the white paper, by utilizing the results of [User survey and enterprise of e-Learning (2005, eLC)] regarding the market of enterprise that is most active in e-Learning introduction, the e-Learning market scale assumption was performed.

The e-Learning market scale in the enterprise education up to the year of 2010 has been assumed in accordance with same basic assumption method as the past white paper.

According to the assumed results, the e-Learning market scale in enterprise that was ¥29.323 billion in 2005, is expected to become ¥143.414 billion in 2011. (Refer to [Appendix C] for the details)

Table i　Assumed results of e-Learning market scale in enterprise

| | 2005 | 2005 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|
| >100 - <1000 persons | 8,979 | 17,711 | 23,175 | 29,363 | 36,703 | 44,792 | 54,316 |
| >1000 - <2000 persons | 2,305 | 4,660 | 6,231 | 8,042 | 10,208 | 12,611 | 15,434 |
| >2000 - <5000 persons | 4,142 | 7,810 | 9,792 | 11,918 | 14,350 | 16,920 | 19,883 |
| >5000 persons | 13,897 | 25,107 | 30,244 | 35,446 | 41,258 | 47,123 | 53,780 |
| Total | 29,323 | 55,288 | 69,442 | 84,789 | 102,519 | 121,445 | 143,414 |

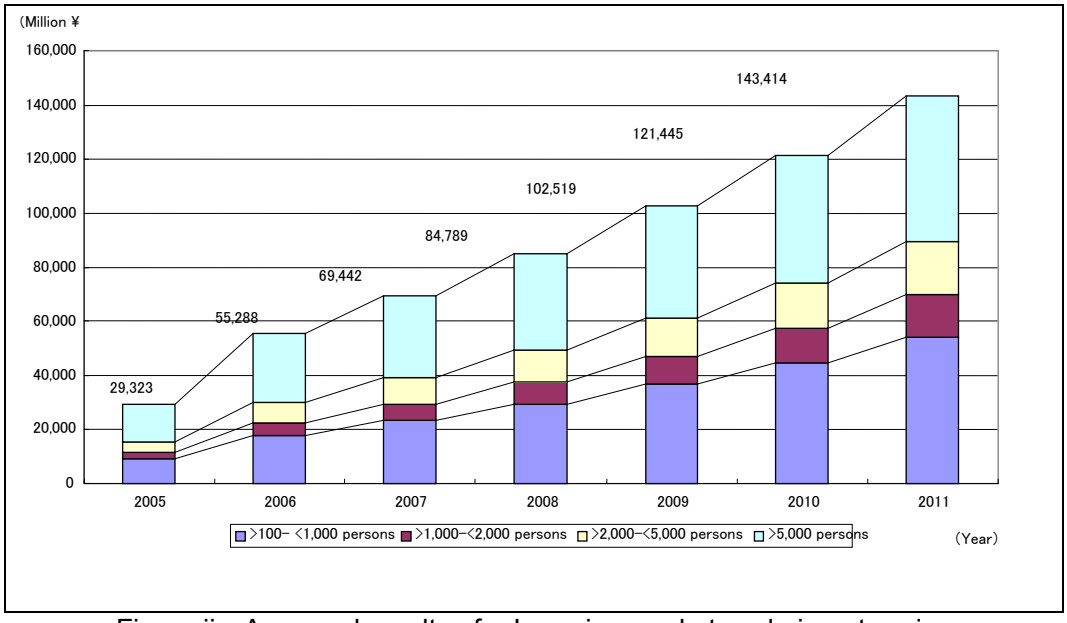



Figure ii　Assumed results of e-Learning market scale in enterprise

[References]

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e-Learning Consortium Japan (eLC): http://www.elc.or.jp/