

PART III DOCUMENT ANALYSIS AND CASE STUDIES

This section reports on research findings that emerge from various forms of qualitative data that are collected in this study. There are three main categories of qualitative data collected in this study: the documents related to the IT in Education initiatives provided by the Education Department (to which we have also included the information about IT related QEF funded projects found on the QEF website), the applications made by schools in response to the various IT in education initiatives of the government (also provided by the Education Department) as well as case studies of how schools make use of ICT in the teaching and learning activities of the school. These sources of data provide a rich database for us to examine IT in education implementation in Hong Kong at the system, school and classroom levels. The findings from the qualitative data will also be triangulated with the findings from the survey study.

In trying to capture the policy implementation and impact, the research team noted that the government develops and implements its strategy in six major areas: access, connectivity, teacher enablement, curriculum resources, resource support and the development of a community-wide culture. Thus these six dimensions are used as a mainstay for much of the data analysis in this section.

CHAPTER 3.1 GOVERNMENT POLICIES AND IMPLEMENTATION

This chapter analyses and reports on the implementation strategies and initiatives undertaken by the government during the first half of the 5-year IT in Education Strategy Plan. Since funding allocation is one major way through which the government channels resource and support for policy implementation, this chapter will begin with a report on the funding allocation for the various aspects of the implementation and how that changes with time. In addition to the funding directly allocated by the Education Department on the ITed initiative, this chapter also reports on the IT related projects that are funded by the QEF for the second, third and fourth batches of projects (no specific breakdown was made for a separate category of IT related projects for the first batch of QEF supported projects).

Besides analyzing the funding allocation, implementation at the system level was also analyzed through an analysis of the government documents to provide a more detailed picture for each aspect of the implementation.

3.1.1 Funding Allocation to support IT implementation in Education

3.1.1.1 Non-recurrent funding

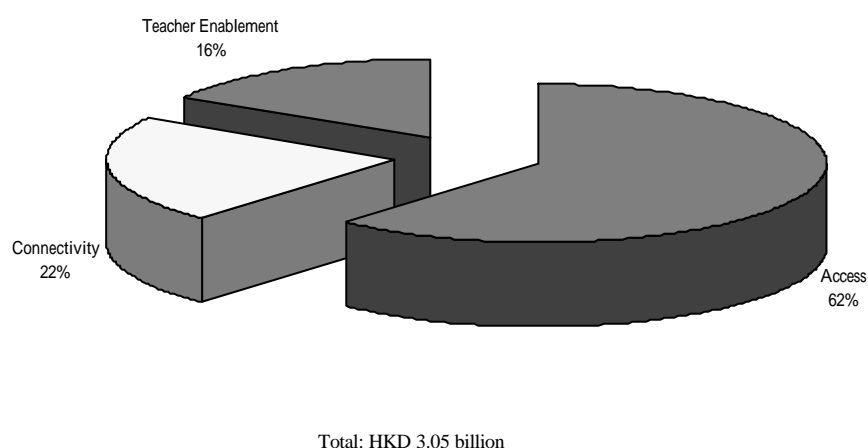
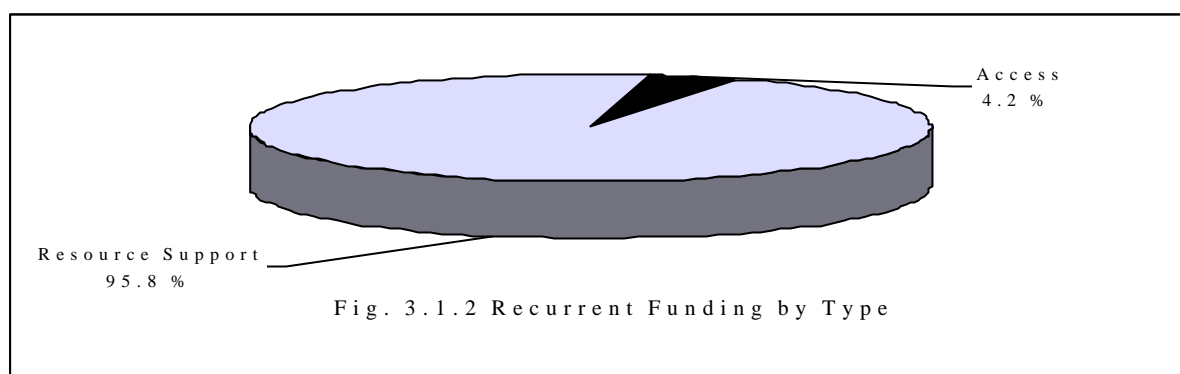


Figure 3.1.1 Non-Recurrent Funding by Objective

Figure 3.1.1 displays the allocation of non-recurrent funding by the government for IT implementation since the financial year 97/98. A total of \$3.05 billion non-recurrent funds has been spent to provide access, connectivity and teacher enablement to support IT developments in schools. Most of the non-recurrent funding was spent on access (62 %), followed by connectivity (22 %) and teacher enablement (16 %).

3.1.1.2 Recurrent funding

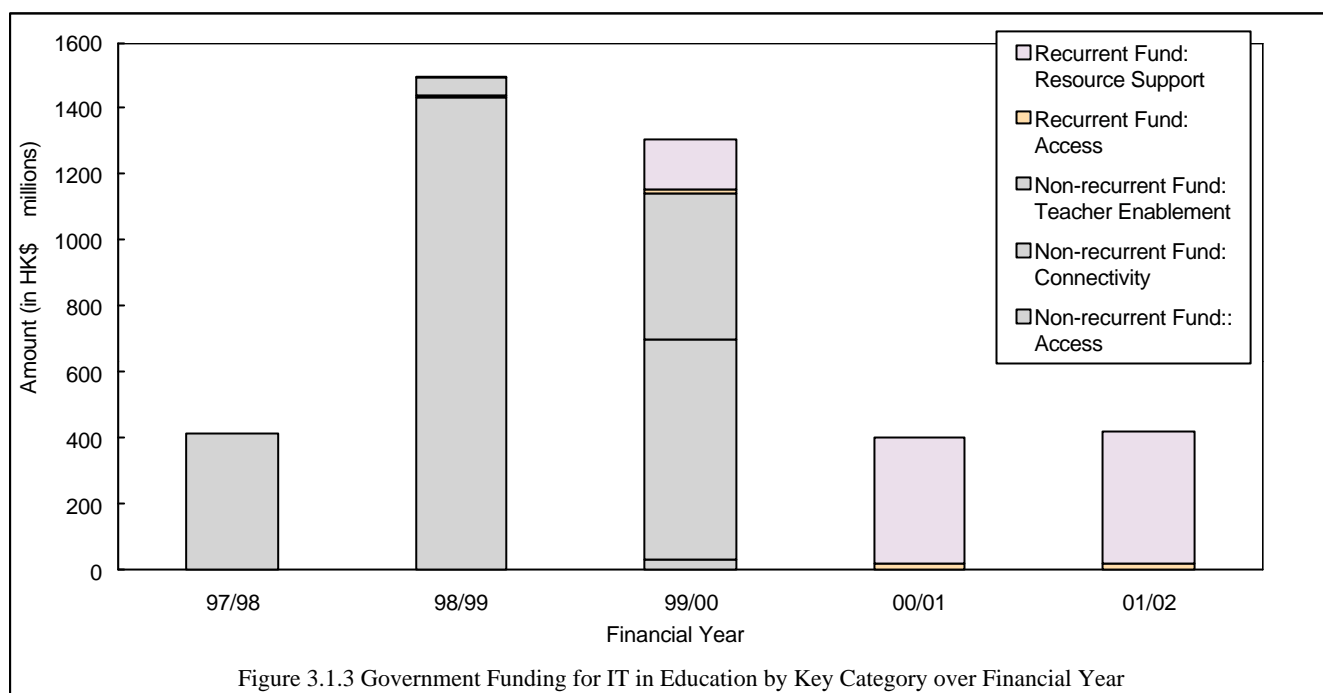


Besides allocation of non-recurrent funding, a total of \$ 0.98 billion was also allocated as recurrent funding to support the various IT in education initiatives during this period. Of this recurrent funding, a small proportion (4.2 %) was spent on access while the remaining funds (95.8 %) was spent on resource support (see Figure 3.1.2). Table 3.1.1 provides a breakdown by financial year for the recurrent and non-recurrent government funding on IT in education.

Table 3.1.1 Funding allocation by categories and financial Year (in millions of HK\$)

Financial Year	Non-Recurrent Fund			Recurrent Fund	
	Access	Connectivity	Teacher Enablement	Access	Resource Support
97/98	411.401	0	0	0	0
98/99	1435.671	2.500	54.000	0	3.000
99/00	27.810	670.036	444.978	8.456	153.264
00/01	0	0	0	16.382	382.763
01/02	0	0	0	16.382	400.792
Total	1874.882	672.536	498.978	41.22	939.819

An inspection of Table 3.1.1 reveals that non-recurrent funding allocation was completed by the financial year 99/00 while significant recurrent funding allocation began in the same year (see Figure 3.1.3).



Recurrent funds are mainly used to support activities under five main sub-categories: organizing IT in education refresher training courses, educational software development, provision of 250 ITCs for public sector schools under School Systems Section of Information Systems Division, contract technical support services (TSS) to schools and contract maintenance services for school computers. Details of the breakdown can be found in Table 3.1.2. It can be seen that in terms of the recurrent funds for the whole ITed Project, a considerable amount was allocated to resource support.

Table 3.1.2 Allocation of recurrent funds on resource support for various ITed initiative categories (in millions of HK\$)

Initiative component	98 / 99	99 / 00	00 / 01	01 / 02	Project start date	Division / Section
ITed refresher training courses	----	21.190	47.371	44.835	4 / 98	IS-ITERC
Educational software development	3.000	6.000	6.000	6.000	4 / 98	IS-ITERC
Provision of 250 ITCs for public sector schools	---	28.236	78.986	100.832	2 batches: 9 / 99 & 9 / 00	IS-SS
Contract technical support services (TSS)	----	69.749	194.451	194.451	1 / 00	IS-ITERC
Contract maintenance services for school computers	----	28.089	55.955	54.674	1 / 00	IS-ITERC
Total:	3.000	153.264	382.763	400.792		

3.1.1.3 Fund allocation for IT in Quality Education Fund (QEF) projects¹

Besides direct allocation of funds by the government to the various IT in education initiatives, the QEF is another major source of funding to support such developments in the territory. Thus a breakdown of the QEF funding to various categories of IT related projects is reported here to reflect more fully the public spending on IT in education.

In the first batch of QEF projects approved, there was no separate categorization into IT-related projects and is thus omitted from this analysis. In the three batches of projects approved between 1999 and 2001, a total of \$1.11 billion was allocated to support 1056 IT-related projects in figure 3.1.4².

An inspection of the funding associated with different categories of QEF supported IT-related projects reveal that 55% of the funds (\$ 0.61 billion) were associated with access (some of which also included connectivity). This brings the total investment in ICT infrastructure in Hong Kong schools to \$3.86 billion.

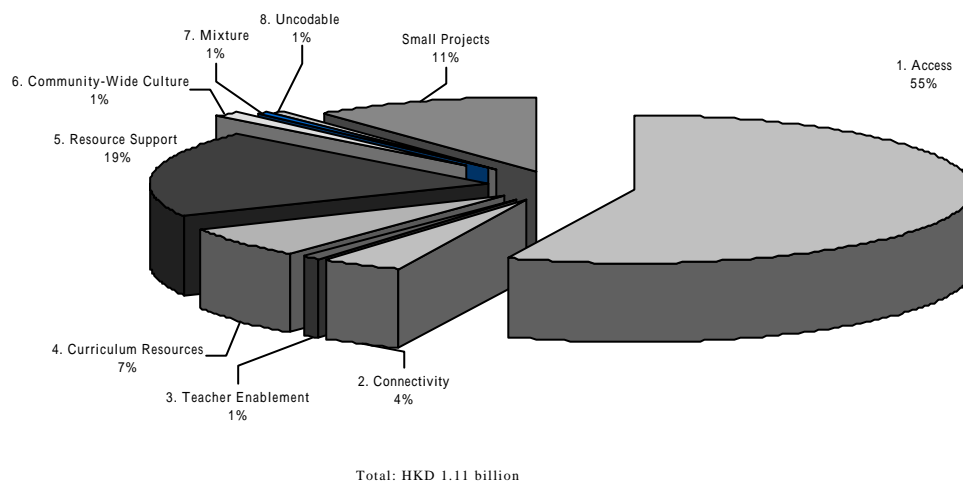


Fig. 3.1.4 QEF funds granted (total) by Objective

QEF grants for *access* were mainly focused on the establishment of centralized rooms with computers for whole class access, variously labeled as multimedia learning centers (MMLC), information technology learning centres (ITLC), multimedia language centers and other names. A small proportion of the access related projects were to equip subject rooms, special purpose rooms and libraries with computers and internet access. The distribution of projects and funding for these two kinds of infrastructure-related grants for various levels of schools are presented in Tables 3.1.3 and 3.1.4.

¹ The data for this analysis is taken from the information provided by the QEF website at: <http://www.info.gov.hk/qef/stat/b/1.htm>

² In figure 3.1.4, item 7 'mixture' and item 8 'uncodable' respectively refer to cross-category projects and those projects that cannot be classified under each category..

Table 3.1.3 Distribution of projects and funding for the establishment of Multimedia Learning Centres (MMLC) and other similar installations in schools at various levels (fund amount in millions of HK\$)

Year	Cross sector		Pre-primary		Primary		Secondary		Special Education	
	No	Funds	No	Funds	No	Funds	No	Funds	No	Funds
1999	-		-		2	1.36	15	12.60	-	
2000			1	0.95	29	21.40	146	138.30	10	7.80
2001	4	3.70	2	1.40	129	68.40	240	216.50	11	5.90

The total funds for the establishment of the 589 projects related to the establishment of centralized computer rooms amounted to \$ 478.3 million. It is also noteworthy that while primary schools were more numerous than secondary schools, most of these projects were granted to secondary schools. This is probably a result of many more applications being made by the secondary schools. While there is about 430 publicly funded secondary schools in Hong Kong, 401 multimedia learning center type of applications from this sector were supported. This contrasts with the 160 funded applications of this nature from over 800 public sector primary schools.

Table 3.1.4 Distribution of projects and funding for the establishment of ICT infrastructure in subject rooms, special rooms and libraries (fund amount in millions of HK\$)

Year	Cross sector		Pre-primary		Primary		Secondary		Special Education	
	No	Funds	No	Funds	No	Funds	No	Funds	No	Funds
1999	-		-		5	1.33	12	4.85	1	0.07
2000	1	1.00	-		9	2.55	24	12.82		
2001	-		-		13	4.09	26	15.72		

As can be seen from Table 3.1.4, the number of infrastructure related projects outside of the establishment of centralized general-purpose computer rooms was significantly fewer. A total of 91 projects for the installation of ICT infrastructure in subject rooms and other special purpose rooms and libraries was supported, involving a total funding of \$ 42.4 million. This funding was only 8.9% of the total funding allocated to the multimedia learning center type of projects.

Other than the above two types of access-related projects which comprise the most numerous category of IT-related projects, there were altogether 323 projects that were awarded a funding of less than \$1 million each. Funding for these 323 projects comprised only 11% of the total grant awarded (HK\$ 167.3 million) in the IT category. These projects were not further analyzed while the projects attracting a funding of \$ 1 million or above (hereafter referred to as large projects) were further classified into 5 categories: connectivity, teacher enablement, curriculum resources, resource support, and community-wide culture. The funding allocated to the various categories of IT-related projects is presented in Figure 3.1.4.

Excluding projects related to access, there were altogether 53 large-scale QEF projects (defined as projects receiving a grant of \$1 million or above) granted within this period, with a

total grant allocation of HK\$422 million. Of these large projects, the biggest proportions were allocated to projects from the Education Department (47 %), followed by school organizations (19 %), tertiary institutions (14 %) and professional organizations (12 %) (see Figure 3.1.5.). Target beneficiaries for these large projects were distributed as follows: 11 % for the primary sector, 55 % for the secondary sector and 20% for cross³ sector projects.

In comparison to the funding allocated to access related projects, the other categories attracted much lower levels of support: 19 % for resource support (in the form of ITC provisions to schools), 1 % for teacher enablement and 4 % for connectivity, 7 % for curriculum resources and 1 % for community-wide culture (details refer to Figure 3.1.4).

Funding in the category of resource support was mainly devoted to the provision of human resources for the establishment of an IT coordinator in schools. Two major relevant grants were approved by the QEF in this category, one submitted from the Subsidized Schools Council to the project, namely “Information Technology (IT) Coordinator Scheme (Supplementary) – Additional Teaching Post for Fostering the Use of IT in Education” (obtaining a grant of around \$76 million in 2000) and the other from the Education Department to another project, namely “Enhanced Manpower Resources for Fostering the Use of IT in Education in Public Sector Schools (For 2001/02 School Year)” (obtaining a grant of around \$162 million in 2001). These two projects accounted for 56 % of the total grant for non-access-related projects, involving a total fund of \$238 million. These two projects can be seen as providing funding to extend the IT Coordinator Scheme set up by the government.

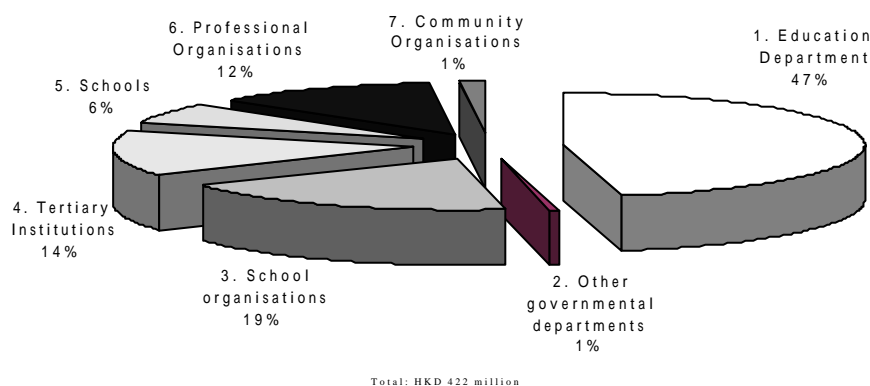


Figure 3.1.5 Amount Received for Large Projects from the QEF by Grantee

3.1.2 Analysis of Education Department documents related to IT in education

3.1.2.1 Overview

Documents issued by the Education Department are very good sources of data for examining policy implementation at the system level. Of the over 300 documents provided to the research team for analysis, a total of only 296⁴ unique documents were analyzed as some of

³ Some of these projects include indirect beneficiaries from special and pre-primary sectors.

⁴ In order to maintain the integrity of the document analysis database, only documents delivered by the ED were

the documents were exact duplicates and there were also duplicates due to the existence of dual language versions for the same documents. While the comprehensiveness of the collection is not known, the documents do provide a good reflection of facets of the implementation at the system level. Each document was coded according to a detailed coding scheme (see Appendix 3.1.1).

3.1.2.2 Categories of documents

In order to formulate an understanding of how the Education Department implemented the IT in education strategy at the system level based on the documents collected, the research team coded each document according to the nature of the content of the document into one of the six categories: access, connectivity, teacher enablement, curriculum resources, resource support and community-wide culture. An additional category, “overall” was introduced to take account of documents related to the Pilot scheme as this initiative was to help the Education Department to formulate its strategy and implementation in the various dimensions rather than a specific dimension in its implementation. As mentioned, the coding was done based on the content of the documents per se rather than the broad categorization that the Education Department staff used in their document inventories accompanying the delivery of the documents to the research team. Table 3.1.5 lists the distribution of the documents analyzed in the seven categories.

Table 3.1.5 A frequency table of document categories

Category ⁵	Key category content	No. of doc.
0	General, overall- Pilot scheme or other information about pilot schools	14
1 & 1.2.5	Access-CL, ITLC, MMLC, procurement of computers, including 5 documents that deal with issues spanning access, connectivity and resource support	37
2	Connectivity e.g. site preparation	27
3	Teacher enablement	108
4	Curriculum	35
5	Resource support, include ITC, TSS	53
6	Community-wide culture, essentially activities targeting the broader community or organized/funded by community groups	22
	Total:	296

It can be seen from Figure 3.1.6 that documents related to teacher enablement comprised the highest proportion (36 %) in the number of ED documents, followed by resource support (18 %), access (13 %) and curriculum resources (12 %). It is evident from the distribution of documents across the categories that this distribution is very different from the distribution of funds across these same implementation dimensions.

analyzed, with one exception, the consultancy report “Levels of Information Technology (IT) Competency, Core course Elements and Assessment Tools for Teacher Training in IT in Education: the final report” commissioned by ED and conducted by a team from the HKIEd and completed in Nov. 1999. This report was included on the basis of its importance and the authenticity of this being a report commissioned by the ED.

⁵ The categorization of document is according to the document content as assessed by the research team and may be different from the categorization provided by the ED team when the documents were delivered.

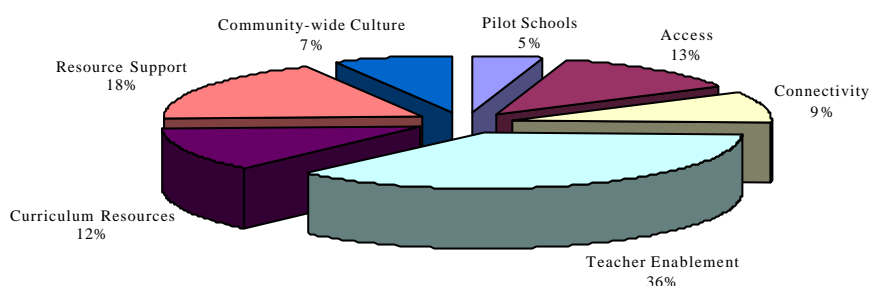


Figure 3.1.6 Document distribution by key categories

3.1.2.3 Document types

In order to provide a better understanding of the process of implementation at the system level, each document was further coded into one of thirteen “document types” according to the function of the document. Table 3.1.6 lists the thirteen document types together with the distribution of the documents across these different functional types.

Table 3.1.6 A frequency table of various types of ED documents

Descriptions of Doc. Types	No. of doc.
Applications from schools (e.g. Pilot scheme, MMLC, ITC)	18
Information giving circulars, mainly about events not organized by ED directly	19
Provision of curriculum resources without introductory seminar/workshop	32
Curriculum resource with introductory seminar/workshop	4
Evaluation/status report	38
Guidelines	10
Internal documents	33
Newsletter/handouts	26
Resource related circulars, including entitlements, invitation to apply for resources, application forms, briefing seminars, etc.	100
Resource offer per acceptance of application	8
Tender specification	3
Survey instrument	10
Documents generated by other sources, mainly from the tertiary sector	1
Total	302 ⁶

⁶ Some ED documents belong to more than one category. So the total is more than 296.

3.1.2.4 Document sources

In order to understand how the various sections of the Education Department coordinates to implement the IT in education strategy, the documents were further analyzed as to the source of issue of the documents. However, as some of the ED documents provided to the research team did not have the cover letter included or were only abstracts of a bigger document, it was not always possible for the document sources to be identified. The research team here acknowledges the help provided by the ED colleagues in providing an indication of the document source in those circumstances. Further, some of the documents analyzed originated from the tertiary sector and other institutions. The distribution of the document source is listed in Table 3.1.7.

Table 3.1.7 Distribution of document sources for documents analyzed.

Document source	No. of doc.
Advisory Inspectorate Division	19
Curriculum Development Institute	17
Curriculum Development Institute - IT in Curriculum Section	14
Curriculum Development Institute - School Library Unit	1
Curriculum Development Institute – former Mathematics and Computer Education Section	3
Curriculum Development Institute - Science Section	2
Curriculum Development Institute - Technology Education Section	13
Information Systems Division	102
Information Systems Division in collaboration with Curriculum Development Institute	3
Information Systems Division - Information Technology Education Resources Centre	29
Information Systems Division - Regional Support Section	4
Information Systems Division - School Systems Section	61
Education Department, Finance Division	2
former Schools Division	8
Special Education Inspectorate (SEI)	1
Quality Education Fund	1
Hong Kong Institute of Education	1
HongKongEducationCity.Net	2
Education Department in collaboration with Professional Teachers' Union	1
Internal documents (administered and coordinated by some ED divisions / sections)	12
Total	296

IT is evident from the above table that the Information Systems Division of the Education Department is the most actively involved in the implementation process, with 200 out of a total of 296 documents (see Appendix 3.1.2) originating from this division. Parts of the implementation responsibilities were also shared by the Curriculum Development Institute.

3.1.2.5 Categories of implementation activities over time

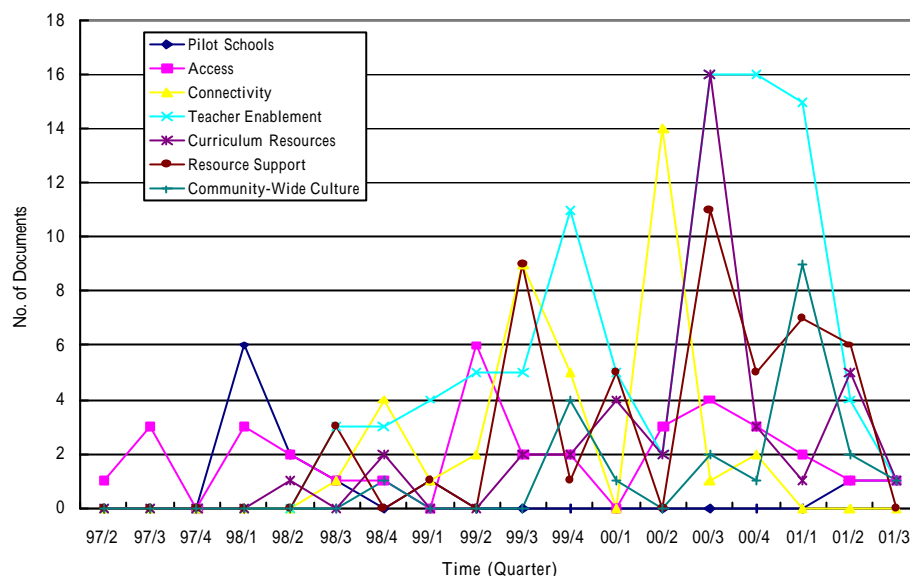


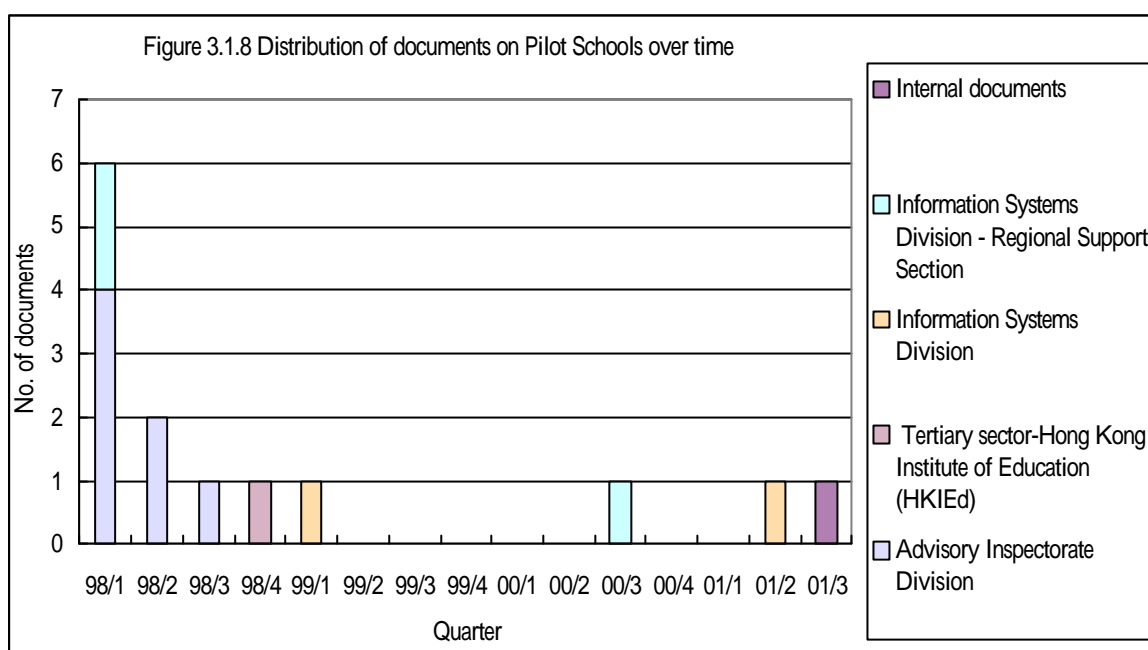
Figure 3.1.7 Frequency graph of documents by category over time

Figure 3.1.7 indicates that the first activities associated with IT implementation at the system level was in the access category, which started in the second quarter of 1997, peaking in the second quarter of 1999. The Pilot Scheme was the second earliest, starting from the first quarter of 1998 and faded away shortly by the fourth quarter of 1998. Activities associated with curriculum resources started from the second quarter of 1998, with steadily increasing levels of activity, and peaking around the third quarter of 2000, as similar to many of the other categories.

Other categories of activities, connectivity, teacher enablement and resource support started slightly later, from the third quarter of 1998. Activities associated with developing connectivity in schools were initiated in regular annual spurts with increasing amplitude, with the highest level of activity taking place in the second quarter of 2000. Activities associated with teacher enablement followed a slightly different pattern. The first peak occurred around the fourth quarter of 1999, followed by sustained, high levels of activity from the third quarter of 2000 to the first quarter of 2001. This is reasonable given the expectation on all serving teachers to reach the BIT level of IT competence. Activities associated with resource support also went through two annual spurts, one in the academic year 99/00 and the second, greater spurt in 00/01. Activities associated with the building up of a community-wide culture was the latest to start and began in the fourth quarter of 1998, gradually gaining importance with the highest level of activity in the first quarter of 2001.

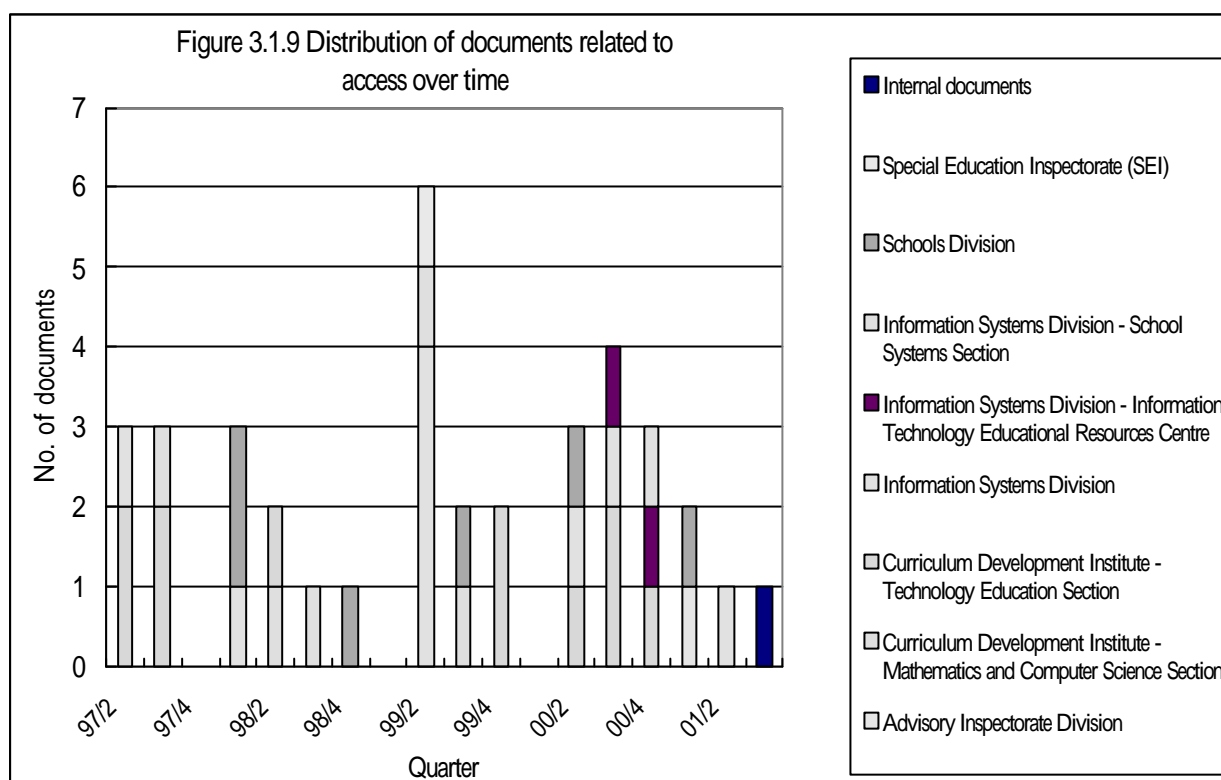
It has to be noted here that the number of documents is used only as a crude indicator of the level of activity. In particular, it has to be noted that the ED colleagues began document collection from December 2000. While the latest batch of documents was delivered in August 2001 and some of the latest documents were issued in the third quarter of 2001, the collection does not contain a complete set of all ITed-related documents generated by ED within the study period and the degree of completeness of the documents in the collection of documents is not known. However, assuming that the collection includes the key documents related to the main ITed initiatives, the time chart does offer a glimpse of the trends in changing activities over time. More detailed discussion of the document analysis results will be provided in later sections for each of the document categories.

3.1.2.6 Implementation of the IT Pilot Scheme



The IT Pilot Scheme was first launched by the Advisory Inspectorate Division in Jan. 1998. The main activities took place in 1998, with most of the document issued in the first quarter of 1998, focusing on introducing schools to the Pilot Scheme and inviting school applications (in the school proposal lists). In the second quarter of 1998, the documents informed those successful pilot schools of provision, proposed terms and conditions of the Scheme. Question-and-answer sessions were then conducted by the Advisory Inspectorate Division in the third quarter of 1998 to clarify the implementation of the Scheme. From the first quarter of 1999 onwards, the Pilot Scheme was taken over by the Information Systems Division. There was only one document associated with the Pilot Scheme for the whole of 1999 and 2000, which was an internal document in the form of a reporting form issued in the first quarter of 1999. This was aimed to guide ED staff responsible for making visits to pilot schools on what to observe and report on during the visits. The document associated with pilot schools was issued in the second quarter of 2001, which was an evaluation report on the pilot scheme conducted by the Information Systems Division (see Figure 3.1.8).

3.1.2.7 Initiatives related to the provision of access⁷



The first documents associated with the provision of access were the provision of an IT Learning Centre (ITLC) to prevocational and secondary technical schools and a Computer Laboratory (CL) to prevocational schools. These two provisions were under the charge of the Technology Education Section of the CDI aimed to provide better support to these two types of schools as they undergo curriculum changes planned by the CDI. These efforts began in the academic year 1997/1998 (see Figure 3.1.9) and were put in place independent of the 5 year IT in Education Strategy. Efforts were made to monitor this project and an evaluation by the CDI Technology Education Section was completed in late 1999.

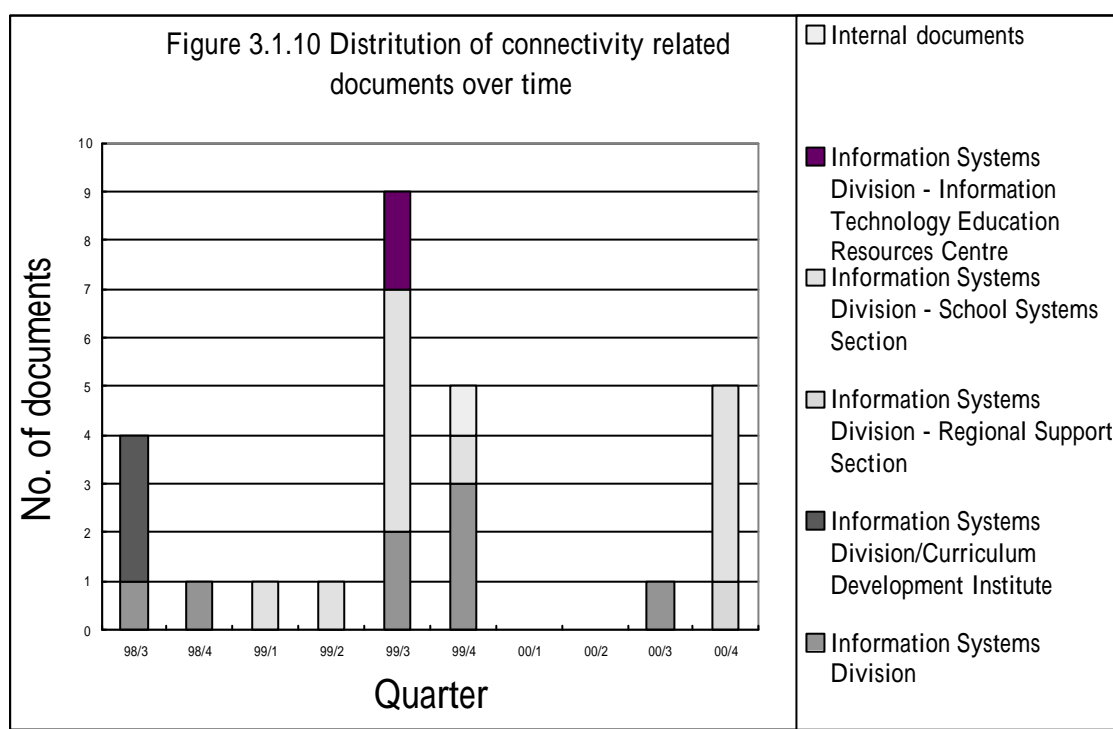
The main responsibility for implementing access related initiatives appeared to rest on the Information Systems Division of the Education Department. The first spurt of activities was associated with two main projects: a letter to public sector secondary schools sent out in February 1998 to invite applications for a multimedia learning centre (MMLC) (finally 103 applications were approved). For primary schools in the public sector, a letter was sent out in May 1998 to provide each school with 15 computers.

The next spurt of activity related to access was the provision of funds to public sector primary and secondary schools to purchase approximately 42 and 82 computers respectively starting from June 1999. There were thus documents sent to schools on procurement guidelines and procedures.

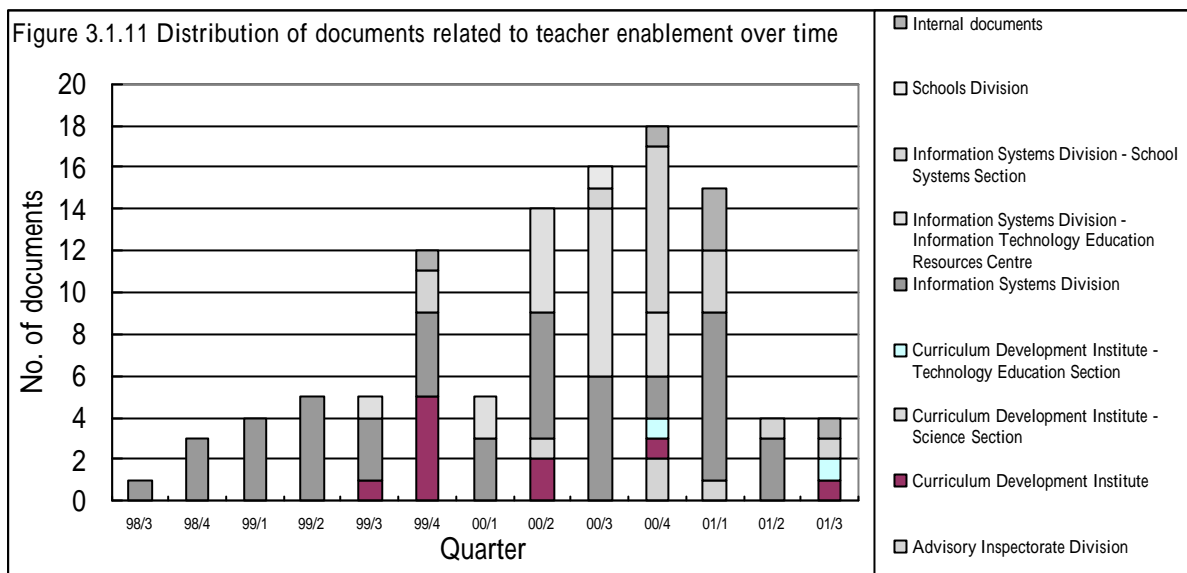
⁷ Miscellaneous overlapped categories such as 1.2.5 are classified into category 1: access for sake of simplicity.

So far, the above initiatives were the main efforts made directly by the Education Department to provide computer access to schools to support teaching and learning. Another set of access-related efforts was to provide computer access to students after formal school hours. This was done through the provision of incentive grants to schools for extending opening hours of computer facilities for use by students and through the provision of computers in community facilities. However, the documentation on these was incomplete. In the collection of documents analyzed, there was only one circular to schools dated July 2000 on the former although it is known that some schools were receiving the incentive grants from the school year 1999 / 2000. The only documentation on the latter was a brief listing of two questionnaire returns on usage of computers in community centers.

3.1.2.8 Initiatives related to the provision of connectivity



Connectivity related initiatives began with the provision of free Internet accounts for primary schools organized by the Information Systems Division and the Curriculum Development Institute in mid-late 1998, indicated by the first peak period (see Figure 3.1.10). Major site preparation works to provide good access levels of internet connection to all public sector schools started in early 1999 led by the School System Section of the Information Systems Division. The initiative started with supporting schools on their site preparation work. This work was completed by the end of August 2000.



3.1.2.9 Change of activity focus in teacher enablement provisions

The activities related to the provision of teacher enablement as reflected in the documents analyzed indicates that the Information Systems Division played a major role in this area of implementation as well. On teacher enablement, the first activities in this area started in late 1998 (see Figure 3.1.11), mainly in the form of experience sharing seminars interspersed with workshops and short courses. Conferences were organized by the Information Technology Education Resource Centre (ITERC) of Information Systems Division on the integration of IT into the teaching of various subject areas. The documents related to teacher enablement that are provided by the Education Department dating from mid-1999 were, however, mainly in the form of short courses. There were also extended courses intended for IT coordinators starting from 1998 (though ED documents related to this kind of provision only included documents issued in Dec. 2000 and April 2001). The Education Department also provided train-the-trainer type of courses to teachers. However, the documentation here was also incomplete, with only one document related to this in the collection analyzed: a call for tender for a “Development Program for ITed Trainers” issued in October 1999.

The teacher enablement seminars are generally oriented towards experience sharing in subject-based integration in the use of IT. On the other hand, the short courses are more varied and the biggest category of these courses appeared to be technically oriented (based on course title and content), teaching teachers to use various application software, to access and make use of the Internet and to develop multimedia resources and webpages.

There was a notable increase in the number of ED documents on teacher enablement from the third quarter of 1998 to fourth quarter of 2000, indicating an escalation of activities in the area of teacher enablement.

The Curriculum Development Institute (CDI) also played a minor role in the provision of teacher enablement, mainly in the provision of experience sharing opportunities and in the provision of resources for teacher enablement in various formats: printed materials, CDROMs and webpages.

3.1.2.10 Initiatives related to the provision of IT-related curriculum resources

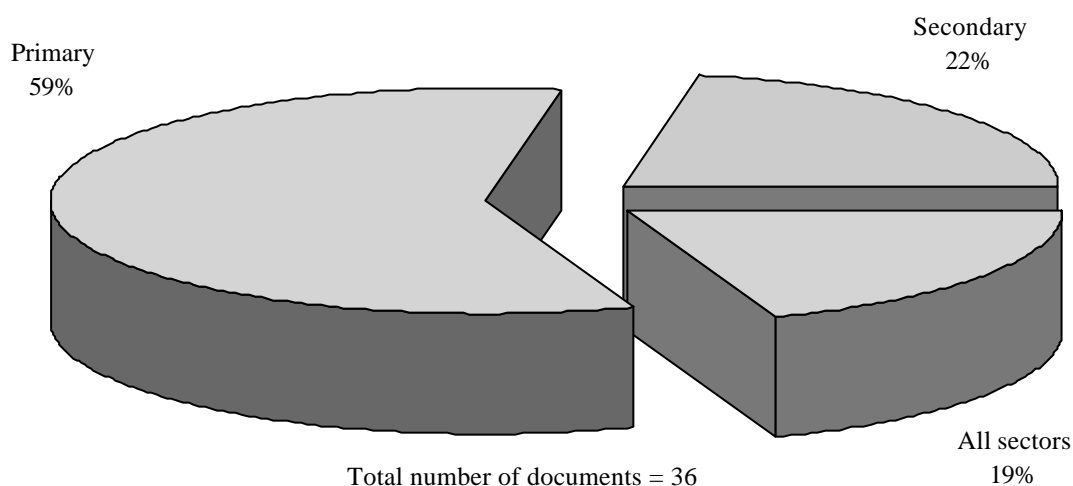


Figure 3.1.12 No. of documents by sector

Most of the curriculum resources included in the document database were intended for use by the primary sector while 19% were intended for all sectors. There were no curriculum resources specifically targeting special schools only. However, all except two of the documents included special schools as among their target recipients.

In terms of document content, of the 36 curriculum resources documents analyzed, the biggest group focused on the development of technological know-how (11). Documents that were intended to support subject-based teaching and learning were distributed as follows: 3 for the humanities area, 2 for mathematics, 4 for science and 4 for multiple subjects (see Table 3.1.8). When scrutinizing some of the teaching and learning resources (e.g. the portfolio sample in the form of VCD in March 2001), it was apparent that the predominant mode of pedagogy portrayed was still teacher-led activities with Powerpoint demonstrations supplemented with question-and-answer sessions.

Table 3.1.8 The distribution of documents in terms of the content of the curriculum resources provided and the school sector targeted.

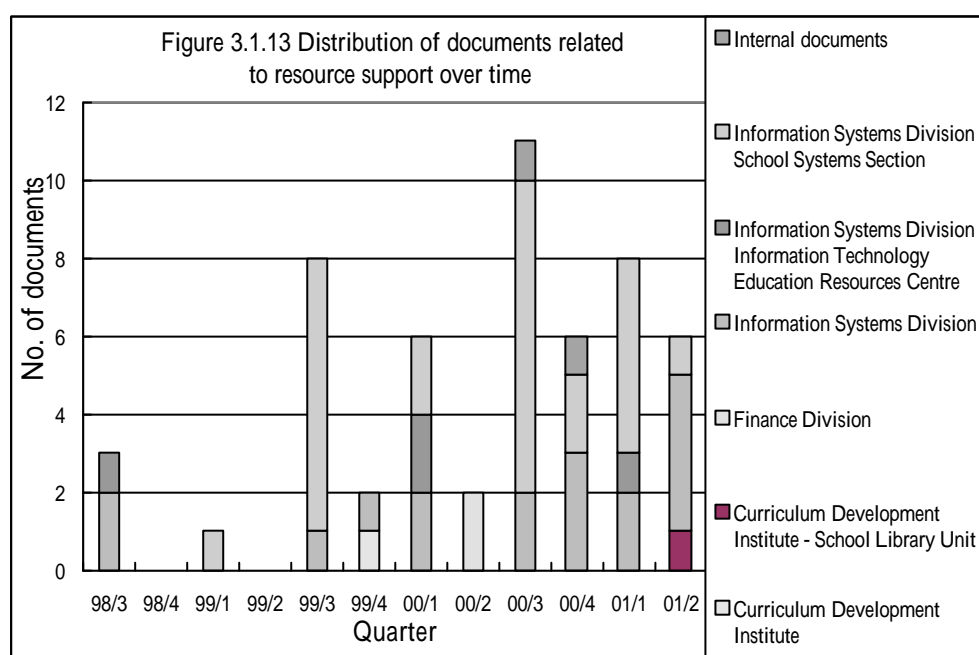
Doc. content	Types of schools					Total
	All primary, secondary & special sch.	Primary sch. only	Primary & special sch.	Secondary sch. only	Secondary & special sch.	
General curricula	1		1		2	4
School subject integration in general	1					1
Integration of IT into English			1			1
Integration of IT into humanistic subjects	1		1		1	3
Integration of IT into Mathematics			1		1	2
Integration of IT into multiple subjects	1		3			4
Integration of IT related to project works		1				1
Integration of IT into Science subjects	1		1		2	4
Target / assessment criteria / format	2		1			3
Technological know-how			10		1	11
Technological know-how and general curriculum aspects			1			1
school lists				1		1
Total	7	1	20	1	7	36

The most common format of curriculum resources provided were CDROMs/VCDs supplemented with printed reference materials (33.3 %; 12 out of 36) followed by just printed materials (16.7%, 6 out of 36).

Analyzing the sources for this document category, it is apparent that both the Information Systems Division (mainly the Information Technology Education Resource Centre) and the Curriculum Development Institute (mainly the IT in Curriculum Section) were actively engaged in the provision of curriculum resources.

3.1.2.11 Initiatives related to the provision of resource support

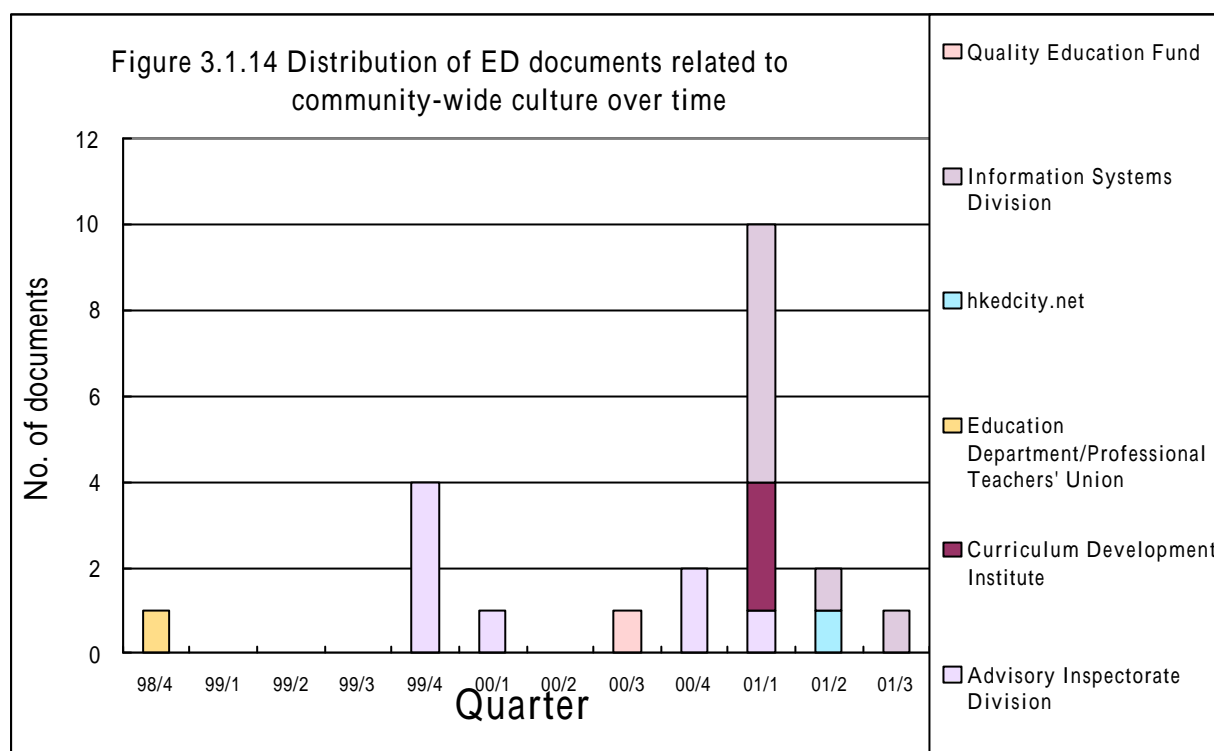
The Information Systems Division (mainly through the RSS and the ITERC) took up the main responsibility for the provision of resource support for the implementation of IT in education (See Figure 3.1.13). The most important forms of support in this area were the provision of ITCs to schools (120 and 130 ITCs were approved in 1999 and 2000 respectively, making up a total of 250) and the provision of contract technical support service to schools. Unfortunately, information on the latter was very much lacking in the collection of documents analyzed, though it is known that this initiative was started in the school year 99/00 and most schools have opted for securing the services from one of the two contractors organized through the ED rather than through self-arrangement.



In addition to the provision of ITCs and technical support services, there were also other aspects of support provided to schools as reflected in the documents analyzed. This included the provision of suggested guidelines for the (re-)structuring of school homepages in July 2000, recommendations on webpages of good books sent to schools and the provision of up to 100 hours of extra technical service support in 2001. Efforts were made to provide support to special schools through the establishment of the Special Education Resource Centre (SERC) in Oct. 2000.

Besides organizing different kinds of support to schools, the ITERC conducted a survey on the usage of technical support services in schools in January 2001 (only the survey instrument was available and not the results) and an evaluation study of the ITC Scheme was completed by the School Systems Section of Information Systems Division in February 2001.

3.1.2.12 Documents related to the fostering of a community-wide culture



The activities in this area are generally open, public activities like conferences and exhibitions (such as the ITed exhibition in December 1998, the Hong Kong Information Infrastructure Expo & Conference 2000 and the Hong Kong Information Technology Education Carnival 2001) and competitions (such as the inter-school and inter-regional school competitions for webpage design and e-cards design competitions between Hong Kong and other cities in China). Other activities include the recruitment of volunteers for the e-senior program and the organization of IT new generation summer camp in 2001. While most of the documents in this area in the collection analyzed came from the ED, many of the activities were co-organized, not only with other public sector institutions like schools and tertiary institutions but also the Professional Teachers' Union and commercial companies.

Summary

The data collected in this chapter reveals that there are three foci in the government implementation of the ITed initiatives during the period of review in terms of funding allocation. These foci, in decreasing priority were: ICT infrastructure (access and connectivity), resource support and teacher enablement. In terms of implementation activities at the system level, there were also several stages in terms of key foci, beginning with the provision of infrastructure (firstly access and then connectivity), followed by the provision of teacher enablement and resource support. The QEF fund allocation for IT-related projects also reflect the same kind of priorities, with access and connectivity projects accounting for about 60% of all funds, followed by resource support, which accounts for 19% of all funds.

It is also clear from the data collected that the government has very clear policy priorities in terms of the implementation within each of these focus areas. The priority for infrastructure was to provide schools with a high student:computer ratio with good connectivity in the form

of centralized multimedia computer rooms. The QEF funded projects in this area again showed the same priority, with over 90% of all infrastructural project funds given to the provision of centralized multimedia computer rooms and computer projection facilities.

Initiatives in the area of teacher enablement also demonstrated clear priorities: getting all teachers to reach a basic level of technical competence and to get most teachers to develop varying levels of competence in the development of multimedia resources using authoring packages and webpage development tools. The highest level of “IT-enabled” teachers would need to be fluent with network administration and generally technically highly competent.

Initiatives related to resource support reflected a supportive response to the plea made by schools that there is a need for extra human resources at the school level to coordinate ITed initiatives and that there should be flexibility in the deployment of this funding so that the coordination work can be taken up by a team of teachers rather than a single person. This initiative also recognized that IT coordination should be distinguished from technical support services such that the latter was also funded.

Close scrutiny of the documents revealed similar policy implementation strategies cross the different categories of access, connectivity, teacher enablement and resource support. The implementation process took into account the different levels of “readiness” in schools, providing flexibility and freedom to schools to pursue solutions that they considered to be the most suitable for their own situation and priorities while providing “set solution” packages that schools could just simply opt for. There was usually flexibility for schools to determine the exact time for taking up a specific initiative within a set period of about two years which the set target needs to be completed. The ED (through the IS Division) generally solicit tenders from a variety of contractors for the various acquisition of resources or services and after completion of the formal process provide schools with a choice of solution packages from the successful bidders.

Other than initiatives to assure that all schools would reach a minimum level of infrastructure and teacher enablement (the distribution of about 40 computers to primary schools, 82 computers to secondary schools, internet connectivity for all schools and provision of training opportunities for all teachers to reach the BIT level of IT competence), the other initiatives were implemented through a process of offering extra incentives and extra funding that schools could bid for, e.g. the MMLC and ITC schemes. This strategy then provided a competitive environment for schools to work on school-based development plans in order to get the extra resource by becoming comparatively more “ready”. On the other hand, late starters could also opt for similar standard packages of resources through QEF applications. The IT Pilot Scheme also helped the ED to become aware of the issues and problems as well as possible pathways for IT implementation in schools (to be detailed in the next chapter).

It is thus fair to conclude that the government has clear priorities and focus in its implementation and effective strategies for dissemination to schools to take account of different school preferences that have been put in place for a relatively smooth execution for the massive operations involved. Whether such priorities and focus are the most appropriate or effective would be explored in other chapters.