

Annex 3: Richard Hamilton-Williams – An Introduction to Training Information Systems

Training Information Systems


An Introduction

Prepared by Richard Hamilton-Williams of Meta Office (New Zealand) for OVTA Workshop on Improvement of Public Training Centres
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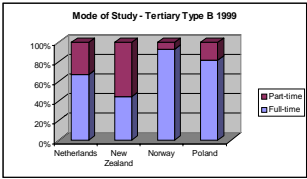
<http://www.meta-office.com/japan.htm>

Overview

- ❑ What does a training information system (TIS) do? [▶](#)
- ❑ Who needs a training information system? [▶](#)
- ❑ Basic concepts of management information systems [▶](#)
- ❑ Overview of a training information system [▶](#)

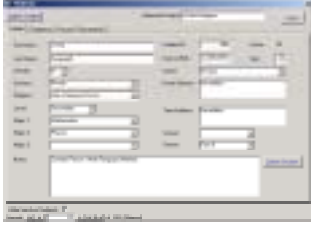


Our target is to produce summary information about training. This chart is from an OECD collection.



Country	Full-time (%)	Part-time (%)
Netherlands	~70	~30
New Zealand	~45	~55
Norway	~95	~5
Poland	~85	~15

Summary information is simply putting together lots of data. We have to gather that data.




What does a TIS do?


- ❑ Gathers data in a structured way [▶](#)
- ❑ Provides administrative tools [▶](#)
- ❑ Makes record keeping easier [▶](#)
- ❑ Provides management and policy information [▶](#)
- ❑ Exchanges data with other systems [▶](#)

Gathering data

- ❑ A training information system gathers data about trainees and their training courses [▶](#)
- ❑ The data is stored in a systematic way
- ❑ It is important to gather the right data efficiently




Optical mark recognition uses a specially designed form and a scanner to capture data



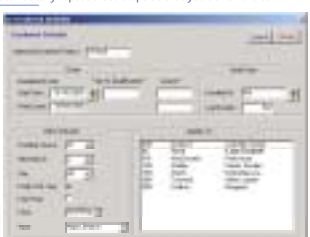
Administrative tools

- Let the computer do the work – especially repetitive tasks
- The system can format and present data in different ways
- It can keep records which can be audited



An example of a repetitive task is enrolment. When you enrol a trainee you are linking this person to parts of the curriculum and recording the period of enrolment. A system can be made to remember what you have done before and automatically repeat those steps so that you don't have to.


Take 2



Record keeping


A TIS allows us to:

- Keep accurate records
- Keep secure records
- Distribute records easily
- Standardise records




Information

- Management information – decisions now
- Policy information – decisions about the future
- Audit information – decisions about the past and about funding

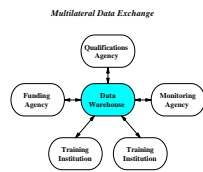


It is important to have a common metric – a way of measuring the number of trainees



Exchanging data

- ☒ With other in-house systems
- ☒ With other training providers
- ☒ With other types of organisation



Who needs a TIS?

- ☒ Policy makers and operational managers [▶](#)
- ☒ Administrators [▶](#)
- ☒ Trainees [▶](#)
- ☒ National agencies and government departments [▶](#)
- ☒ International organisations [▶](#)



Policy makers and operational managers

- ☒ Information for:
 - Planning purposes
 - Budgets
 - To measure progress
 - To evaluate performance of managers

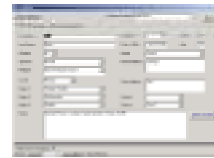
Monthly Report for the Chief Executive - Happy Days Institute

		City	Sub	City/Sub	% Change
Curriculum					
National Qualifications offered		25	24	4%	
Local Qualifications offered		6	4	0%	
Qualifications currently being reviewed		5	4	-25%	
Qualifications to be reviewed in next 12 months		4	4	0%	
Students					
Head Count	Enrolment	1200	1101	-12%	
	Non-enrolment	1000	1000	0%	
	Total	2200	2101	-5%	
EFTS	Enrolment	150	140	-7%	
	Non-enrolment	100	100	0%	
	Total	250	240	-4%	



Administrators

- ☒ Automated processes to:
 - Store and organise data
 - Do calculations
 - Perform repetitive tasks
 - Produce lists and simple reports



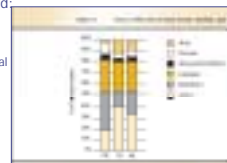
Trainees

- ☒ The system is used:
 - So personal information can be securely stored
 - To obtain reliable transcripts
 - So course evaluations can be processed
 - To review curriculum options
 - To obtain ID/library cards



Government

- ☒ The system is used:
 - For planning purposes and budgets
 - To ensure national standards
 - To distribute funding
 - To measure progress
 - To evaluate performance of centres



International organisations

- ☒ Use information:
 - To build profiles
 - To measure progress and to evaluate performance of countries
 - To distribute funding

The objective of the UNESCO/OECD/EUROSTAT data collection on education statistics is to provide internationally comparable data on key aspects of education systems, specifically on the participation and completion of education programmes, as well as the cost and type of resources dedicated to education.



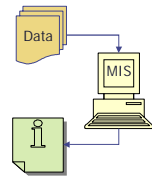
Management information systems

- ☒ How data is transformed into information [▶](#)
- ☒ How a database works [▶](#)
- ☒ Hardware – computers and networks [▶](#)
- ☒ Standards for hardware and for the definition and transfer of data [▶](#)



Data becomes information

- ☒ Data is lots of little facts
- ☒ Information is made of data that has been summarised and formatted
- ☒ A management information system makes information from data [▶](#)



Making information

Males			Females		
Age	Number	Rate	Age	Number	Rate
0-4	14	11	0-4	11	9
5-9	14	11	5-9	11	9
10-14	14	11	10-14	11	9
15-19	14	11	15-19	11	9
20-24	14	11	20-24	11	9
25-29	14	11	25-29	11	9
30-34	14	11	30-34	11	9
35-39	14	11	35-39	11	9
40-44	14	11	40-44	11	9
45-49	14	11	45-49	11	9
50-54	14	11	50-54	11	9
55-59	14	11	55-59	11	9
60-64	14	11	60-64	11	9
65-69	14	11	65-69	11	9
70-74	14	11	70-74	11	9
75-79	14	11	75-79	11	9
80-84	14	11	80-84	11	9
85-89	14	11	85-89	11	9
90-94	14	11	90-94	11	9
95-99	14	11	95-99	11	9
Total	140	110	Total	110	90



How a database works

- ☒ Most management information systems use a relational database
- ☒ A relational database is a way of storing data in sets of related tables
- ☒ A database allows users to share data

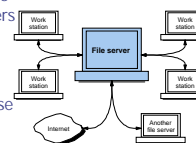
Name	Date of Birth	Gender	School
Calista Jones	01/10/1970	Female	100
Mark Hoel	13/07/1972	Male	134
Mabel Pooi	25/11/1963	Female	134

School Name	Code	Province	Type
Constitution	134	Guadalcanal	Primary
Tonalehu	100	Central	Primary
Mickelover	123	Western	Secondary




Computers and networks

- ☒ A network connects individual computers
- ☒ Connected computers can share files
- ☒ Larger networks use a dedicated file server




Standards for systems

- Standards are important for systems to work together
- There are well developed standards for operating systems, and hardware – computers and networks
- It is also vital to have standards for the definition of data items and for the transfer of data



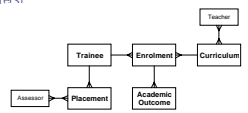
Overview of the Tongan TIS

- Basic data sets: trainees, curriculum, enrolments, outcomes
- Lookup tables and system parameters
- Data entry
- Reporting: administrative schedules, management reports, and statistics



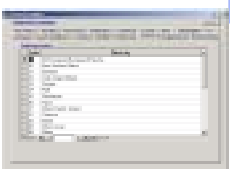
Basic data sets

- Persons
 - Trainees (students)
 - Teachers (lecturers)
 - Assessors
- Curriculum
- Enrolment
 - Academic
 - Placement
- Outcomes
 - Academic
 - Labour Market



Lookup tables and parameters

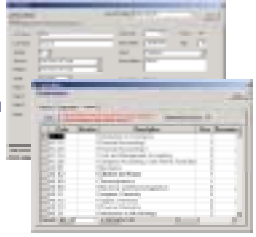
- Lookup tables
 - Improve data entry
 - Force data standards
- System parameters
 - Improve efficiency
 - Provide security and control



Take 2


Data entry

- Simple clear screen design helps
- Datasheets and single record screens
- Administrative processes are important



Reporting

- Administrative schedules
- Management reports
- Statistics
 - Tables
 - Charts



Summary

- ☒ Managers need information.
- ☒ Good information is based on accurate and standard data.
- ☒ A training information system gathers data and produces information.

