

## APPENDICES

### Appendix 1

#### **Delivering WorLD Objectives -vision, school selection, IT and classroom setup models .**

A brief conceptual vision of the WorLD programme is presented in this appendix with technology and classroom set up models as assessment models that can be tailored to the needs of each project country and local community.

##### **1. Vision of the WorLD programme**

The World Bank believes that with the help of ICT there can be:

- An open world of learning of on-line communities for students and teachers;
- An improvement in educational outcomes for students;
- A narrowing of the information gap between students in the industrialized and the developing world, and
- The building of bridges among the leaders of tomorrow<sup>39</sup>.

It intimates that:

Internet connectivity enables teachers and students in developing countries to contribute to the world body of knowledge about their own societies, while gaining critical access to information from industrialized nations. The programme has thus helped connect many secondary schools in developing countries to the Internet.

##### **2. How schools are selected to participate in the WorLD programme**

The selection of pilot schools in developing countries to participate in the WorLD programme takes place in co-ordination with the appropriate government agency in charge of education in the country, as well as with local communities. Pilot schools are chosen in accordance with various criteria, which include the following:

- Existing school and telecommunications infrastructure
- Opportunities for long-term self sustainability, social and economic equity
- The interest of the local communities and
- The capacity to innovate.

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<sup>39</sup> This information is taken from <http://www.worldbank.org/worldlinks/english/html/about.htm> (2000)

### 3. Technology set-up design for schools

The technology component of the WorLD programme features four classroom set-up models. These models, which can be tailored to match the existing needs and conditions of individual countries and schools, were developed after an initial examination of a range of technical and contextual considerations. These include:

- Average level of pilot countries' telecommunications infrastructure (telephone lines, fiber optics capacity, existing ISP, optimal types of servers, Internet backbone);
- Recurring and fixed costs (on-line access, cost per minute);
- Software choices for various operating systems;
- Existing telecommunications regulatory environment and anticipated reforms; location and level of Internet access of secondary schools;

As part of its work, the WorLD Programme conducts a comprehensive technical needs analysis of each of its participating countries, to create tailored connectivity packages that are adaptable to local circumstances and sustainable into the future.

#### a). Classroom set-up models

A number of classroom set-up options have been provided for countries and schools to be able to adapt to their needs and circumstances.

**Option 1** comprises:

A **Computer Laboratory**: in which 10 (486) computers are networked in a Local Area Network (LAN), with a dialup connection using a 33.6 modem, proxy server and

#### **Option 2**

A **Computer Laboratory Plus Library Access**, 10 (486) computers networked in LAN, with a dialup connection using a 33.6 modem proxy server with a separate computer for teacher use in a common library.

#### **Option 3**

**Classroom Access** 12 (486) computers networked in LAN, with a dialup connection using a 33.6 modem, proxy server with a separate computer for teacher use library common access and 3 classrooms with 4 computers.

#### **Option 4**

**Full Internet Connection** 12 (486) computers networked in LAN with a leased line connection with router proxy server, a separate computer for teacher use library common access 3 classrooms with 4 computers.

The list of participating schools in the WorLD South African program is found in Appendix 3

## **Appendix 2:**

### **List of Schools that participated in the World Links for Development (WorLD) projects in South Africa**

The WorLD project was implemented in only 3 of the 9 provinces in South Africa. The Provinces are: the Eastern Cape, KwaZulu-Natal and the North-West Province.

#### **Eastern Cape – 6 Schools**

1. Nathaniel Nyaluza High School
2. Numbulelo High School
3. Maria Louw High School
4. St. Josephs Junior Secondary School
5. Vuli Valley High School
6. Zingiza High School

#### **KwaZulu-Natal –7 Schools**

1. Asithuthuke Secondary School
2. Estcourt Secondary School
3. Ngwenyathi High School
4. Nottingham Road Combined School
5. St. Joseph's Secondary School
6. Quakaza Senior Secondary School
7. Zenzeleni Community Centre

#### **North-West Province - 7 Schools**

1. Gabonewe Secondary School
2. Kgomotso High School
3. Leteane High School
4. Mmabatho High School
5. Micha-Kgasi High School
6. Ngaka Maseko High School

## **Appendix 3:**

### **Letter to educators explaining WorLD learner sampling process**

Department of Information Science  
University of Pretoria  
Pretoria  
28-09-2000

Dear WorLD Teacher

#### **SAMPLING OF WorLD PROJECT LEARNERS IN SAMPLED SCHOOLS**

I wish to thank you once again for participating in this WorLD research. In order to ensure that the views expressed by the learners in this research are both unbiased and as representative as possible, it is important that a scientific process be used for selecting learner respondents in your school.

I will therefore be grateful if you will strictly adhere to the following procedure as discussed in selecting your learners to answer the questionnaire.

1. Provide for each learner in your WorLD class on the sampling day a number from 01 - 0N (Where N is the last number in the class). For example, if there are 20 learners in your class the numbering will be 01 – 20.
2. Determine the sampled size, i.e. 20% of the number of learners by dividing the number in the class by 5. For example, if there are 29 learners the sampled size will be  $20/5 = 4$ . The number of sampled learners should approximate the number you have already submitted and worked out, as in the Table below.
3. Select the sampled learners at random (without any planned procedure) as discussed
4. The selected students should fill in the questionnaire.

**Table A1: WorLD Sampled Schools, teachers and Learners**

	School	WorLD Teacher	No. of Learners	No. Sampled
1	St. Joseph' Secondary	S.T Ngcobo	45	9
2	Estcourt Secondary	V.Hlatswayo	30	6
3	Nottingham Road Combined	G.K.Doe	30	6
4	Asithuthuke Secondary	J. Mukathi	40	8
5	Quakaza Senior Secondary	K. Mbatha	35	7
6	Zenzeleni (Mpophomeni) High	P. Robertson	20	4
7	Ngwenyathi High School	V.Mtsewu	40	8
8	Micha-Kgasi High School	M. Gaasenwe	15	3
9	Kgomotso High School	K. Gaebe	40	8
10	Gabonewe Secondary School	V. Mohambi	42	8
11	Leteane High School	M. Mashingo	33	6
12	Ngaka – Maseko High	J. Mahuma	31	6
13	St Joseph's High	M. Abraham	20	4
14	Nombulelo	I Kofie	35	7

Table 1 above will guide you regarding the sampled learners in your school.

Please return the completed questionnaires to the address provided to you during the discussion as soon as possible.

Wishing you the best in your service to learners

Hillar Addo

## Appendix 4

Teachers'/co-ordinators' letter of introduction of questionnaire.

### SCHOOL OF INFORMATION TECHNOLOGY UNIVERSITY OF PRETORIA

#### QUESTIONNAIRE ON THE UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTs) IN EDUCATION FOCUSING ON THE WORLD LINKS FOR DEVELOPMENT (WorLD) PROGRAMME IN SOUTH AFRICA

I am a Doctoral student in the school of Information Technology, University of Pretoria. I am pursuing a study on the utilization of information and communication technologies (ICTs) in education focusing on the World Links for Development (**WorLD**) programme in South Africa.

Your school has been selected as one that is participating keenly in the programme and its projects. I would be most grateful if you as the school project co-ordinator (project teacher) would assist me by responding to the following questions in this questionnaire and returning it to me as soon as possible.

Your answers will be treated confidentially.

INSTRUCTIONS
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1. Please answer the questions only if your school is a beneficiary of the World Links for Development (**WorLD**) programme and you are the co-ordinator or teacher responsible for the project in your school.
2. *Please answer each question by drawing a neat circle around the appropriate number in a shaded box, or where asked for write your answer in the shaded space provided.*
3. Please answer the questions as honestly as possible

Thank you for your assistance

Hillar Addo

**FOR OFFICE USE**

Respondent

VR   1-2

School

VS   3-4

**SECTION A: BACKGROUND INFORMATION ON PROJECT CO-ORDINATOR AND SCHOOL**

**1** Are you a

Male teacher?	<b>1</b>
Female teacher	<b>2</b>

V1  5

**2** Are you a

Black South African?	<b>1</b>
White South African?	<b>2</b>
Other: (specify)	

V2  6

**3** How did you become the project co-ordinator in your school?  
(choose one answer)

I alone showed interest and was accepted by the school	<b>1</b>
The principal nominated me	<b>2</b>
We applied and I got the job after an interview process	<b>3</b>
Other. (specify)	

V3  7

**4** Have you ever used a computer before the introduction of the **WorLD** programme in your school?

Yes	<b>1</b>
No	<b>2</b>

V4  8

**5** Do you have a computer at home?

Yes	<b>1</b>
No	<b>2</b>

V5  9

**6** If yes is it functional?

Yes	<b>1</b>
No	<b>2</b>

V6  10

**7** If you have a computer at home it is a

286	<b>1</b>
486	<b>2</b>
Pentium	<b>3</b>
Other: (specify)	

V7  11



**FOR OFFICE USE**

8 If you have a computer at home is it connected to the Internet?

Yes	1
No	2

V8  12

9 What is the name of your school?

V9   13-14

10 What is the name of your province?

V10   15-16

11 What is your school's e-Mail address?

V11  17

12 How many students participated in the **WorLD** project in your school?

V12   18-19

13 How long if any was the delay between registration of school for the **WorLD** project and supply and use of equipment?

V13   20-21

14 If there was a delay did it affect the project in your school?

Yes	1
No	2

V14  22

**SECTION B: TRAINING FOR THE WorLD PROJECT**

15 Have you been trained for the **WorLD** programme?

Yes	1
No	2

V15  23

16 Which of the listed application software have you been trained in?

Application software	Type/Product	
Word Processing	Microsoft Word	1
	Other: (specify)	
Spreadsheets	Microsoft Excel	2
	Other: (specify)	
Presentation graphics	Power Point	3
Using the Internet World Wide Web (WWW)	Internet Explorer	4
	Netscape	5
Using the Internet	Group Wise	6
e-Mail	Pegasus	7

V16  24

V17  25

V18  26

V19  27

V20  28

V21  29

V22  30

V23  31

V24  32

**FOR OFFICE USE**

Database	Microsoft Access	<b>8</b>
	Other: (specify)	
Desktop publishing		<b>9</b>
Web design		<b>10</b>
Information skills (Research)		<b>11</b>
Programming skills		<b>12</b>
Other: (specify)		<b>13</b>

V25	<input type="text"/>	33
V26	<input type="text"/>	34
V27	<input type="text"/>	35
V28	<input type="text"/>	36-37
V29	<input type="text"/>	38-39
V30	<input type="text"/>	40-41
V31	<input type="text"/>	42-43
V32	<input type="text"/>	44-45

**17** Which of the following systems have you been trained in?

System	Type/Product/Explanation	
Hardware	Physical identification of computer components and how these function in the computer system	<b>1</b>
	Other: (specify)	
Operating System Software	MS DOS	<b>2</b>
	Windows 95	<b>3</b>
	Windows 98	<b>4</b>
	Windows 2000	<b>5</b>
	Windows NT	<b>6</b>
	UNIX	<b>7</b>
Networking	Networking systems & procedures	<b>8</b>
None		<b>9</b>
Other: (specify)		

V33	<input type="text"/>	46
V34	<input type="text"/>	47
V35	<input type="text"/>	48
V36	<input type="text"/>	49
V37	<input type="text"/>	50
V38	<input type="text"/>	51
V39	<input type="text"/>	52
V40	<input type="text"/>	53
V41	<input type="text"/>	54
V42	<input type="text"/>	55-56

**18** How many days in total were you trained for the programme? (choose one answer)

2 days	<b>1</b>
3 days	<b>2</b>
4 days	<b>3</b>
More than 10 days	<b>4</b>
Other. (specify)	

V43  57

**19** How many hours per day did you spend training for the **WorLD** project? (choose only one answer)

2 hours	<b>1</b>
3 hours	<b>2</b>
4 hours	<b>3</b>
More than 10 hours	<b>4</b>
Other. (specify)	

V44  58

**20** To what extent did you have a computer to practice after training sessions? (choose one answer)

I <b>always</b> had a computer to practice on	<b>1</b>
I <b>sometimes</b> had a computer to practice on	<b>2</b>
I <b>seldom</b> had a computer to practice on	<b>3</b>
I <b>never</b> had a computer to practice on	<b>4</b>
Other. (specify)	

V45  59

**FOR OFFICE USE**

**21** Are you able to provide first level technical support for your school computer system?

Yes	<b>1</b>
No	<b>2</b>

V46  60

**22** If "no" to Question 21, what is the main reason?

V47   61-62

**23** Have you been trained for online-collaborative school projects?

Yes	<b>1</b>
No	<b>2</b>

V48  63

**24** Do you use information from the Internet for teaching purposes?

Yes	<b>1</b>
No	<b>2</b>

V49  64

**25** If no why not? (choose one answer)

The Internet is often not available	<b>1</b>
There is often no time to surf the Web for information for teaching purposes	<b>2</b>
There is not enough skill to find information from the Web	<b>3</b>
Other. (specify)	

V50  65

**26** How many collaborative projects have you been involved in? (choose one answer)

One	<b>1</b>
Two	<b>2</b>
More than 2	<b>3</b>
None	<b>4</b>
Other. (specify)	

V51  66

**27** If you have not undertaken any collaborative project why not? (choose one answer)

The Internet is often not available	<b>1</b>
There is often no time for collaborative school projects	<b>2</b>
There is not enough skill to undertake such project	<b>3</b>
There was no school partner to collaborate with	<b>4</b>
Other. (specify)	

V52  67

**FOR OFFICE USE**

**28** If you have undertaken successful collaborative projects which one (type) have you found most interesting and had the best participation of students?

V53 

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 68-69

**29** Which aspect of the **WorLD** training undertaken did you find most satisfactory?

V54 

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 70-71

**30** Which aspect of the **WorLD** training undertaken did you find most unsatisfactory?

V55 

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 72-73

**31** Which further training will you recommend for the programme?

V56 

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 74-75  
V57 

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 76-77  
V58 

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 78-79  
V59 

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 80-81

**SECTION C: PROJECT TEACHERS' BACKGROUND TRAINING**

**32** What is the highest qualification of project teacher? (choose one answer)

Higher Diploma in Education HDE	<b>1</b>
Bachelor of Education BEd	<b>2</b>
Bachelor's degree	<b>3</b>
Honours degree	<b>4</b>
B/Hons	<b>5</b>
Masters MEd/MA	<b>6</b>
Other. (specify)	

V60   82-83

**33** Which of the teaching methods listed below are you familiar with?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>
Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V61  84  
 V62  85  
 V63  86  
 V64  87  
 V65  88  
 V66  89  
 V67  90  
 V68  91

**34** Which of the methods listed below have been in use before the introduction of the **WorLD** project in your school?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>
Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V69  92  
 V70  93  
 V71  94  
 V72  95  
 V73  96  
 V74  97  
 V75  98  
 V76  99

**35** Which of the methods below have you been trained in before?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>
Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V77  100  
 V78  101  
 V79  102  
 V80  103  
 V81  104  
 V82  105  
 V83  106  
 V84  107

**36** In which of the methods named below have you been **specifically** trained for the **WorLD** project?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>

V85  108  
 V86  109  
 V87  110  
 V88  111

**FOR OFFICE USE**

Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V89	<input type="text"/>	112
V90	<input type="text"/>	113
V91	<input type="text"/>	114
V92	<input type="text"/>	115

**37** Which of the methods named below have been introduced in your school because of the project?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>
Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V93	<input type="text"/>	116
V94	<input type="text"/>	117
V95	<input type="text"/>	118
V96	<input type="text"/>	119
V97	<input type="text"/>	120
V98	<input type="text"/>	121
V99	<input type="text"/>	122
V100	<input type="text"/>	123

**38** If **any** of the methods have been introduced who introduced it?

V101	<input type="text"/>	<input type="text"/>	124-125
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**39** Which of the methods listed below are in use in the school **now**?

Project based	<b>1</b>
Constructivist	<b>2</b>
Resource Based	<b>3</b>
Authentic learning	<b>4</b>
Student Team	<b>5</b>
Research based	<b>6</b>
System based	<b>7</b>
None	<b>8</b>

V102	<input type="text"/>	126
V103	<input type="text"/>	127
V104	<input type="text"/>	128
V105	<input type="text"/>	129
V106	<input type="text"/>	130
V107	<input type="text"/>	131
V108	<input type="text"/>	132
V109	<input type="text"/>	133

**40** Which technology-related skill development have you had access to?

Courses (apart from <b>WorLD</b> training) or workshops on basic introduction to hardware/word processing	<b>1</b>
Courses offered by a private training organization	<b>2</b>
On-site training visits to schools where computers are being used	<b>3</b>
One to one professional mentoring	<b>4</b>
Courses and workshops offered by an education department (eg a teachers' centre)	<b>5</b>
None	<b>6</b>
Other. (specify)	

V110	<input type="text"/>	134	
V111	<input type="text"/>	135	
V112	<input type="text"/>	136	
V113	<input type="text"/>	137	
V114	<input type="text"/>	138	
V115	<input type="text"/>	139	
V116	<input type="text"/>	<input type="text"/>	140-141

**FOR OFFICE USE**

**41** Which of the training listed above have other teachers on staff had access to?

Courses (apart from <b>WorLD</b> training) or workshops on basic introduction to hardware/word processing	<b>1</b>
Courses offered by a private training organization	<b>2</b>
On-site training visits to schools where computers are being used	<b>3</b>
One to one professional mentoring	<b>4</b>
Courses and workshops offered by an education department (eg a teachers' centre)	<b>5</b>

V117  142

V118  143

V119  144

V120  145

V121  146

**42** How many other teachers have had access to technology related training in your school?

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V122   147-148

**43** Are you undergoing any further training to upgrade and equip yourself for technology based education?

Yes	<b>1</b>
No	<b>2</b>

V123  149

**44** If you answered "**yes**" to Question 43, the course is offered by a (choose one answer)

University	<b>1</b>
Technikon	<b>2</b>
College	<b>3</b>
Other: (specify)	

V124  150

V125  151

V126  152

V127  153

**45** If you are not undergoing further training why not? (choose one answer)

Financial constraints	<b>1</b>
No government funding	<b>2</b>
No clear government policy on ITCs in education	<b>3</b>
I don't know which institution to go to	<b>4</b>
Other: (specify)	

V128  154

**SECTION D: CAPACITY ISSUES**

**46** Which of the following attributes have you acquired to manage your school computer system? (choose one answer)

<b>Ability</b> - Skill to deliver first level support as well as maintenance	<b>1</b>
<b>Time</b> - enough outside teaching to engage in Collaborative projects	<b>2</b>
<b>Confidence</b> - to operate computers without fear of causing damage to the tool	<b>3</b>
None	<b>4</b>

V129  155

Other: (specify)

**47** If you have acquired any of the attributes how do you rate it?

Ability	<b>Fair</b> - 0% to 50%	<b>1</b>
	<b>Good</b> - -51% to 74%	<b>2</b>
	<b>Excellent</b> – 75% to 100%	<b>3</b>
Time	<b>Fair</b> - 0% to 50%	<b>1</b>
	<b>Good</b> - -51% to 74%	<b>2</b>
	<b>Excellent</b> – 75% to 100%	<b>3</b>
Confidence	<b>Fair</b> - 0% to 50%	<b>1</b>
	<b>Good</b> - -51% to 74%	<b>2</b>
	<b>Excellent</b> – 75% to 100%	<b>3</b>

V130  156

V131  157

V132  158

**48** To what extent does your project duties affect your normal teaching? (choose one answer)

Unable to manage computer system and engage in collaborative projects because of teaching load/duties	<b>1</b>
To a large extent	<b>2</b>
Minimal extent	<b>3</b>
No effect	<b>4</b>
Other. (specify)	

V133  159

**49** Do you think the school requires the services of an additional staff member to help you with your duties?

Yes	<b>1</b>
No	<b>2</b>

V134  160

**50** Do you think the **WorLD** programme can fund the services of this person?

Yes	<b>1</b>
No	<b>2</b>

V135  161

**51** What qualification and skills should such a person have? (choose one answer)

A teacher who will manage the school library and provide first level technical support	<b>1</b>
A purely technical person (Network controller)	<b>2</b>
Other. (specify)	

V136  162

**52** Which of these support have you received from the project?

Emotional	<b>1</b>
Technical	<b>2</b>
Learning strategies	<b>3</b>
Collaborative planning	<b>4</b>
Mentor	<b>5</b>
None	<b>6</b>
Other. (specify)	

V137  163

V138  164

V139  165

V140  166

V141  167

V142  168

V143   169-170



**FOR OFFICE USE**

**53** How supportive has your school and principal been? (choose one answer)

Very supportive – 75% to 100%	<b>1</b>
Supportive – 50% to 75%	<b>2</b>
Luke warm support – 25% to 50%	<b>3</b>
Not Supportive – 0% to 25%	<b>4</b>
Other. (specify)	

V144  171

**54** If support has been unsatisfactory what do you think is the **main reason** responsible for that?

V145   172-173

**SECTION E: SCHOOL RESOURCE SITUATION**

**55** Which of the listed information resources below exist in your school **now**?

Computer Laboratory	<b>1</b>
Library/Media Centre	<b>2</b>
School Librarian / Media teacher	<b>3</b>
School Multimedia Centre	<b>4</b>
Internet access	<b>5</b>
Network controller	<b>6</b>
None	<b>7</b>
Other. (specify)	

V146  174  
 V147  175  
 V148  176  
 V149  177  
 V150  178  
 V151  179  
 V152  180  
 V153   181-182

**56** Which of the resources listed below existed in your school **before** the introduction of the project?

Computer Laboratory	<b>1</b>
Library/Media Centre	<b>2</b>
School Librarian / Media teacher	<b>3</b>
School Multimedia Centre	<b>4</b>
Internet access	<b>5</b>
Network controller	<b>6</b>
There were no resources present	<b>7</b>
Other. (specify)	

V154  183  
 V155  184  
 V156  185  
 V157  186  
 V158  187  
 V159  188  
 V160  189  
 V161   190-191

**57** How many computers do you have in your school?

<b>Computers in use</b>	286		
	486		
	Pentium		
	Other: (specify)		

V162   192-193  
 V163   194-195  
 V164   196-197  
 V165  198

**FOR OFFICE USE**

Computers <b>not</b> in use	286		
	486		
	Pentium		
	Other: (specify)		

V166			199-200
V167			201-202
V168			203-204
V169			205-206
V170		207	
V171			208-209

**58** How many of the school computers have **CD-ROM** drives?

Computers <b>in</b> use	286		
	486		
	Pentium		
	Other: (specify)		
Computers <b>not</b> in use	286		
	486		
	Pentium		
	Other: (specify)		

V172			210-211
V173			212-213
V174			214-215
V175		216	
V176			217-218
V177			219-220
V178			221-222
V179			223-224
V180		225	
V181			226-227

**59** What **number** of your school computers have any of the following operating system **in use**?

DOS		
UNIX		
Windows 3.1		
Windows 95		
Windows 98		
Windows 2000		
Windows NT		
Other: (specify)		

V182			228-229
V183			230-231
V184			232-233
V185			234-235
V186			236-237
V187			238-239
V188			240-241
V189		242	
V190			243-244

**60** Does your school have a computer Network?

Yes	<b>1</b>
No	<b>2</b>

V191		245
------	--	-----

**61** If **"yes"** in Question 60, how is it connected to the Internet? (choose one answer)

Dial up modem (14.4 to 56k)	<b>1</b>
Integrated services digital network (ISDN)	<b>2</b>
Lease line	<b>3</b>
Other. (specify)	

V192		246
------	--	-----

**FOR OFFICE USE**

**62** If the school is connected to the Internet, how many computers are connected? (choose one answer)

One	<b>1</b>
Two	<b>2</b>
Three	<b>3</b>
All	<b>4</b>
Other. (specify)	

V193  247

**63** Which of the following technology exist in your school for the purpose of teaching?

TV(s)	<b>1</b>
Video Machines	<b>2</b>
Radio	<b>3</b>
Over head Projectors	<b>4</b>
Slide/Tape Projectors	<b>5</b>
Data Projectors	<b>6</b>
Tape recorder(s)	<b>7</b>
None	<b>8</b>
Other. (specify)	

V194  248  
 V195  249  
 V196  250  
 V197  251  
 V198  252  
 V199  253  
 V200  254  
 V201  255  
 V202   256-257

**64** Which of the technology listed below existed **before** the **World** project?

TV(s)	<b>1</b>
Video Machines	<b>2</b>
Radio	<b>3</b>
Over head Projectors	<b>4</b>
Slide/Tape Projectors	<b>5</b>
Data Projectors	<b>6</b>
Tape recorder(s)	<b>7</b>
None	<b>8</b>
Other. (specify)	

V203  258  
 V204  259  
 V205  260  
 V206  261  
 V207  262  
 V208  263  
 V209  264  
 V210  265  
 V211   266-267

**65** Does the school have a file server?

Yes	<b>1</b>
No	<b>2</b>

V212  268

**66** Have you received any support from any of the established and better-resourced schools?

Yes	<b>1</b>
No	<b>2</b>

V213  269

**FOR OFFICE USE**

**67** If “yes” to Question 66, which of the following support have you received?

Donation of old Computers	<b>1</b>
Donation of new Computers	<b>2</b>
Technical	<b>3</b>
Mail/Network services	<b>4</b>
Other. (specify)	

V214		270
V215		271
V216		272
V217		273
V218		274

**68** If no why not? (choose one answer)

We have not asked them for support	<b>1</b>
They are not willing to help despite our plea	<b>2</b>
Such schools are very far away from us	<b>3</b>
Other. (specify)	

V219		275
V220		276
V221		277
V222		278

**SECTION F: ILLITERACY AS HINDRANCE TO THE USE OF ICTs IN A SCHOOL**

**69** To what extent are students engaged in the **WorLD** project able to read and write generally without assistance? (choose one answer)

<b>To a large extent.</b> Many of the students are able to read and write without help	<b>1</b>
<b>To a minimal extent.</b> Only a few students can read and write	<b>2</b>
Other. (specify)	

V223		279
------	--	-----

**70** Where students have problems with reading and writing, indicate roughly the percentage range that experience such problems (choose one answer)

75% to 90%	<b>1</b>
74% to 50%	<b>2</b>
49% to 20%	<b>3</b>
19% to 5%	<b>4</b>
Other. (specify)	

V224		280
------	--	-----

**71** To what extent are students able to access information from the Internet without assistance? (choose one answer)

<b>To a large extent.</b> Many of the students are able to access information without help	<b>1</b>
<b>To a minimal extent.</b> Only a few students can access information without help	<b>2</b>
Other. (specify)	

V225		281
------	--	-----

**FOR OFFICE USE**

**72** To what extent are students able to read from the Internet?  
(choose one answer)

<b>To a large extent.</b> Many of the students are able to read from the Internet	<b>1</b>
<b>To a minimal extent.</b> Only a few students can read	<b>2</b>
Other. (specify)	

V226  282

**73** To what extent are students able to use information from the Internet? (choose one answer)

<b>To a large extent.</b> Many of the students are able to use information from the Internet	<b>1</b>
<b>To a minimal extent.</b> Only a few students are able to use such information	<b>2</b>
Other. (specify)	

V227  283

**74** If students experience problems with reading writing and using information from the Internet, what factors in your opinion are responsible for this? (choose one answer)

Lack of resources in the school	<b>1</b>
Lack of resources at students' home environment	<b>2</b>
Lack of experience with the use of The Internet	<b>3</b>
Laziness	<b>4</b>
Other. (specify)	

V228  284

**SECTION G: UTILIZATION OF MULTIMEDIA**

**Multimedia** in the context of *this questionnaire*, is **information** (data) in the formats of text, graphics, images (still and moving), **and sound** combined and generated by a computer.

**75** Have you used a combination of any two of the above formats in any of the **WorLD** projects?

Yes	<b>1</b>
No	<b>2</b>

V229  285

**76** If you have which of the formats combined have you used?

V230			286-287
V231			288-289
V232			290-291
V233			292-293

**FOR OFFICE USE**

**77** How do you think multimedia as a computer product/tool can help **WorLD** learners in the means listed below to improve upon their knowledge and skills?

Attract students to practice and acquire skills	<b>1</b>
Stimulate their learning process	<b>2</b>
Make up for inability to read effectively	<b>3</b>
Enhance their concentration	<b>4</b>
Eliminate passive learning	<b>5</b>
Equip students with independent learning habits	<b>6</b>
Build in students curiosity and the quest for knowledge	<b>7</b>
Support their oral cultural background	<b>8</b>
Other. (specify)	

V234		294
V235		295
V236		296
V237		297
V238		298
V239		299
V240		300
V241		301
V242		302-303

**78** For multimedia to be fully operative, it requires the following minimum listed equipment. Which of the equipment below do you have in your school?

At least a 486 PC with 540 Mb Hard disk	<b>1</b>
Super VGA monitor	<b>2</b>
Loud speakers/Sound blasters	<b>3</b>
Digital camera	<b>4</b>
Video Camera	<b>5</b>
Page/ graphic Scanners	<b>6</b>
Voice digitizers	<b>7</b>
Windows operating system	<b>8</b>
Other. (specify)	

V243		304
V244		305
V245		306
V246		307
V247		308
V248		309
V249		310
V250		311
V251		312-313

**79** With the computer skills you have acquired are you able to utilize fully multimedia for educating your learners?

Yes	<b>1</b>
No	<b>2</b>

V252		314
------	--	-----

**80** If no which area of expertise do you think you need to improve upon?

Multimedia Web page design	<b>1</b>
Multimedia Pedagogy	<b>2</b>
Technical computer skills	<b>3</b>
Other. (specify)	

V253		315
V254		316
V255		317
V256		318

<b>SECTION H: BENEFITS AND CHALLENGES OF THE WorLD PROGRAMME</b>
--

**FOR OFFICE USE**

**81** In what way has the programme been of benefit you?

Introduced modern approaches to teaching and learning	<b>1</b>
Introduced new insights into education	<b>2</b>
Introduced new challenges to my professional development	<b>3</b>
Ushered me into the global educational arena	<b>4</b>
Enable me to develop myself as far as the new approach to education is concerned	<b>5</b>
Enabled me to equip myself with computer and information skills	<b>6</b>
Other. (specify)	

V257	<input type="text"/>	319
V258	<input type="text"/>	320
V259	<input type="text"/>	321
V260	<input type="text"/>	322
V261	<input type="text"/>	323
V262	<input type="text"/>	324
V263	<input type="text"/>	325
V264	<input type="text"/>	<input type="text"/> 326-327

**82** In what way(s) has the programme been of benefit to the school?

The school has received international recognition (Has been put on the Internet: Information superhighway)	<b>1</b>
Modern educational equipment have become part of the schools' teaching and learning environment.	<b>2</b>
Students are able to engage in collaborative learning with others far and wide	<b>3</b>
Students acquire skills which they will use at work places or for further education	<b>4</b>
Spill over benefits in the form of infrastructure and logistics have been made available	<b>5</b>
Other. (specify)	

V265	<input type="text"/>	328
V266	<input type="text"/>	329
V267	<input type="text"/>	330
V268	<input type="text"/>	331
V269	<input type="text"/>	332
V270	<input type="text"/>	<input type="text"/> 333-334

**83** In what way(s) has the project been a challenge to the project teacher?

More work and added responsibility without additional pay	<b>1</b>
Inability to fully discharge normal teaching duties	<b>2</b>
Caused conflict with other members of staff	<b>3</b>
Caused me un-refunded financial expenditure	<b>4</b>
Caused conflict with school principal	<b>5</b>
Other. (specify)	

V271	<input type="text"/>	335
V272	<input type="text"/>	336
V273	<input type="text"/>	337
V274	<input type="text"/>	338
V275	<input type="text"/>	339
V276	<input type="text"/>	<input type="text"/> 340-341

**84** In what way(s) has the programme been of a hindrance to the school?

Caused conflicts among teachers	<b>1</b>
Students spend more time at the computer room at the expense of their examination subjects	<b>2</b>
It is an expensive venture	<b>3</b>
Other. (specify)	

V277	<input type="text"/>	342
V278	<input type="text"/>	343
V279	<input type="text"/>	344
V280	<input type="text"/>	345

**FOR OFFICE USE**

**85** What problems do you anticipate in the future with the introduction of computers to the learning process in your school?

Cost of maintenance of the computer system may be out of reach of school (parents)	<b>1</b>
Traditional culture and language will be lost	<b>2</b>
Teachers who will not update their skills and knowledge will frustrate the system	<b>3</b>
Other. (specify)	

V281  346

V282  347

V283  348

V284  349

**86** What suggestions do you have to improve the use of computers for education in your school and the **WorLD** project in South Africa?

V285   350-351

V286   352-353

V287   354-355

V288   356-357

V289   358-359

***Thank you for answering this questionnaire***

Hillar Addo



**Appendix 5**

Students' letter of introduction of questionnaire

**SCHOOL OF INFORMATION TECHNOLOGY UNIVERSITY OF PRETORIA**

**QUESTIONNAIRE ON THE UTILIZATION OF INFORMATION AND  
COMMUNICATION TECHNOLOGIES (ICTs) IN EDUCATION FOCUSING ON  
THE WORLD LINKS FOR DEVELOPMENT (WorLd) PROGRAMME  
IN SOUTH AFRICA**

I am a Doctoral Student in the School of Information Technology, University of Pretoria. I am pursuing a study of the World Links for Development (**WorLD**) programme in South Africa.

Your school has been selected as one that is participating keenly in the projects. I would be most grateful if you as a learner who has participated in the project would assist me by responding to the questions in this questionnaire and returning it to me as soon as possible.

Please answer the questions as honestly as possible.

Your answers will be treated confidentially.

**INSTRUCTIONS**

*Please answer each question by drawing a neat circle around the appropriate number in a shaded box, or where asked for write your answer in the shaded space provided.*

Thank you for your assistance

Hillar Addo

**FOR OFFICE USE**

Respondent

School

**SECTION A: STUDENT BACKGROUND**

1 I am a student

Male	1
Female	2

2 I am a

Black South African	1
White South African	2
Other: (specify)	

3 In what grade are you?

--

4 Have you ever used a computer before the **WorLD** project was introduced to your school?

Yes	1
No	2

5 Have you ever been trained to use a computer before the project?

Yes	1
No	2

6 Do you have a computer at home?

Yes	1
No	2

7 If "yes" to Question 6, does it function?

Yes	1
No	2

8 If you have a computer at home is it connected to the Internet

Yes	1
No	2

VR   1-2

VS   3-4

V1  5

V2  6

V3   7-8

V4  9

V5  10

V6  11

V7  12

V8  13

**SECTION B: TRAINING**

**9** How have you been trained for the **WorLD** programme? (choose one answer)

I have been trained very well	<b>1</b>
I have been trained fairly well	<b>2</b>
Training has been unsatisfactory	<b>3</b>
I have had no training at all	<b>4</b>
Other. (specify)	

V9  14

**10** If you have been trained, about how many hours per day did you spend in training for the project? (choose one answer)

2 hours	<b>1</b>
3 hours	<b>2</b>
4 hours	<b>3</b>
More than 5 hours	<b>4</b>
Other. (specify)	

V10  15

**11** How many days in total were you trained for the programme? (choose one answer)

2 days	<b>1</b>
3 days	<b>2</b>
4 days	<b>3</b>
More than 5 days	<b>4</b>
Other. (specify)	

V11  16

**12** Which of the listed application software have you been trained in?

<b>Application software</b>	<b>Type/Product</b>	
Word Processing	Microsoft Word	<b>1</b>
	Other: (specify)	
Spreadsheets	Microsoft Excel	<b>2</b>
	Other: (specify)	
Presentation graphics	Power Point	<b>3</b>
Using the Internet World Wide Web (WWW)	Internet Explorer	<b>4</b>
	Netscape	<b>5</b>
Using the Internet	Group Wise	<b>6</b>
e-Mail	Pegasus	<b>7</b>
Database	Microsoft Access	<b>8</b>
	Other: (specify)	
Desktop publishing		<b>9</b>
Web design		<b>10</b>
Information skills (Research)		<b>11</b>
		<b>12</b>
Programming skills		<b>13</b>
Other: (specify)		

V12  17

V13  18

V14  19

V15  20

V16  21

V17  22

V18  23

V19  24

V20  25

V21  26

V22  27

V23  28

V24   29-30

V25   31-32

V26   33-34

V27   35-36

V28   37-38

**FOR OFFICE USE**

**13** For which of the following did you find the training to be unsatisfactory?

Microsoft Word	<b>1</b>
Microsoft Excel	<b>2</b>
Power Point	<b>3</b>
Internet Explorer	<b>4</b>
Netscape	<b>5</b>
Group Wise	<b>6</b>
Pegasus	<b>7</b>
Microsoft Access	<b>8</b>
Desktop publishing	<b>9</b>
Web design	<b>10</b>
Information skills (Research)	<b>11</b>
Programming skills	<b>12</b>
Other. (specify)	

V29		39
V30		40
V31		41
V32		42
V33		43
V34		44
V35		45
V36		46
V37		47
V38		48-49
V39		50-51
V40		52-53
V41		54-55

**14** Which of the following systems have you been trained in?

System	Type/Product/Explanation	1
Hardware	Physical identification of computer Components and how these function in the computer system	<b>1</b>
Operating System Software	MS DOS	<b>2</b>
	Windows 95	<b>3</b>
	Windows 98	<b>4</b>
	Windows 2000	<b>5</b>
	Windows NT	<b>6</b>
	UNIX	<b>7</b>
Networking	Networking systems & procedures	<b>8</b>
None		<b>9</b>
Other: (specify)		

V42		56
V43		57
V44		58
V45		59
V46		60
V47		61
V48		62
V49		63
V50		64
V51		65-66

**15** For which of the following did you find the training to be unsatisfactory?

Hardware	<b>1</b>
MS DOS	<b>2</b>
Windows 95	<b>3</b>
Windows 98	<b>4</b>
Windows 2000	<b>5</b>
Windows NT	<b>6</b>
UNIX	<b>7</b>
Networking	<b>8</b>
Other. (specify)	

V52		67
V53		68
V54		69
V55		70
V56		71
V57		72
V58		73
V59		74
V60		75-76

**16** To what extent have you had a computer to practice after training sessions? (choose one answer)

I <b>always</b> had a computer to practice on	<b>1</b>
I <b>sometimes</b> had a computer to practice on	<b>2</b>
I <b>seldom</b> had a computer to practice on	<b>3</b>
I <b>never</b> had a computer to practice on	<b>4</b>

V61		77
-----	--	----

Other. (specify)

**17** To what extent have you been trained for collaborative school project? (choose one answer)

I have been trained <b>very well</b>	<b>1</b>
I have been trained <b>fairly well</b>	<b>2</b>
Training has been <b>unsatisfactory</b>	<b>3</b>
I have had <b>no training</b> at all	<b>4</b>
Other. (specify)	

V62  78

**SECTION C: LANGUAGE PROFICIENCY**

**18** Which of the following do you prefer as a means of communication at school? (choose one answer)

English	<b>1</b>
Local language	<b>2</b>
Other. (specify)	

V63  79

**19** How do you rate your ability to read English texts from books? (choose one answer)

<b>Excellent</b> - Above 75%	<b>1</b>
<b>Very Good</b> – 60% to 74%	<b>2</b>
<b>Good</b> – 50% to 59%	<b>3</b>
<b>Fair</b> – 40% to 49%	<b>4</b>
<b>Poor</b> – 20% to 39%	<b>5</b>
<b>Very Poor</b> – 0% to 10%	<b>6</b>
Other. (specify)	

V64   80-81

**20** How do you rate your ability to read English texts from computers? (choose one answer)

<b>Excellent</b> - Above 75%	<b>1</b>
<b>Very Good</b> – 60% to 74%	<b>2</b>
<b>Good</b> – 50% to 59%	<b>3</b>
<b>Fair</b> – 40% to 49%	<b>4</b>
<b>Poor</b> – 20% to 39%	<b>5</b>
<b>Very Poor</b> – 0% to 10%	<b>6</b>
Other. (specify)	

V65   82-83

**21** If your reading is not good what reasons do you think are responsible? (choose one answer)

Lack of reading material at school	<b>1</b>
Lack of reading material at home	<b>2</b>
Use of the local language sometimes as a means of instruction at school	<b>3</b>

V66  84

Use of the local language as a means of communication mostly between teachers and students and between students	<b>4</b>
Other. (specify)	

**22** How often have you used information from computers for class exercises? (choose one answer)

Very often	<b>1</b>
Often	<b>2</b>
Not often	<b>3</b>
Not at all	<b>4</b>
Other. (specify)	

V67  85

**23** How many collaborative projects have you been involve in? (choose one answer)

One	<b>1</b>
Two	<b>2</b>
Three	<b>3</b>
None	<b>4</b>
Other. (specify)	

V68  86

**24** Do you enjoy using computers for your studies?

Yes	<b>1</b>
No	<b>2</b>

V69  87

**SECTION D: UTILIZATION OF MULTIMEDIA**

**25** Do you have a television at home?

Yes	<b>1</b>
No	<b>2</b>

V70  88

**26** How often do you view television (choose one answer)

Very often	<b>1</b>
Often	<b>2</b>
Not often	<b>3</b>
Not at all	<b>4</b>
Other. (specify)	

V71  89

**27** Which of the following do you prefer in the process of using computers for learning? (choose one answer)

Pictures alone	<b>1</b>
Pictures with text	<b>2</b>
Picture, text and sound	<b>3</b>

V72  90

Text alone	<b>4</b>
Sound alone	<b>5</b>
Other. (specify)	

**SECTION E: ADVANTAGES AND CHALLENGES**

**28** In what way do you think the computer as a tool helps you to improve upon your studies?  
(choose one answer)

I am able to concentrate on what I was doing at a time	<b>1</b>
I enjoy using the computer to learn	<b>2</b>
I am able to communicate and share knowledge	<b>3</b>
I am able to access lots of information	<b>4</b>
I am able to develop learning skills	<b>5</b>
I have a lot of fun working with computers	<b>6</b>
Other. (specify)	

V73   91-92

**29** What is the **most** important thing you should do to derive the full benefit from learning with computers?

Read more about computers to know about what they can do and their limitations	<b>1</b>
Learn computer programming in order to understand how They function	<b>2</b>
Practice to learn the correct use of many application programs	<b>3</b>
Other. (specify)	

V74  93

**30** What suggestions do you have which will help improve upon the project in your school and in South Africa as a whole?

V75   94-95  
 V76   96-97  
 V77   98-99

**Thank you for answering the questions**

Hillar Addo