

A study on the use of multimedia in the University of Zululand.

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Abstract

Multimedia is seen as one of the technologies that most influenced the learning process of students. This technology not only enhances the visual learning process of the students, but also has indeed changed the whole way in which students learn and assimilate information. The aim of the study was to determine the use of multimedia by students on the University of Zululand for educational purposes, to investigate the effectiveness of it to student's academic work and studies.

Questionnaires were used as a method of eliciting responses from the respondents. Twenty questionnaires were distributed and twenty received. Giving a 100% return rate. The major findings stated clearly that most of the students use multimedia to search for information of assignment and search information for knowledge sake, but also to socialize and share information with friends and lecturers. Recommendations laboratory assistants and lecturers on how to use multimedia, and that computers train included students be made available for students to use multimedia applications.

1 Introduction

According to Hofstetter (1994:25) multimedia is any computer based presentation or application that integrates one or more of the following elements: text animation, video, graphics, and audio. It can also be defined as information presented in more than one format, such as text, audio, video, graphics, and images. According to Green & Gilbert (1995:5), multimedia is the woven combination of text, graphic art, sound, animation, and video elements.

The implementation of multimedia capabilities in computers is just the latest episode in a long series: cave painting, handcrafted manuscripts, the printing press, radio and television. These advances reflect the innate desire of man to create outlets for creative expression, to use technology and imagination to gain empowerment and freedom for ideas (Kalmbach, 1994:35).

The people who weave multimedia into meaningful tapestries are multimedia developers (Kalmbach 1994:46). The term "multimedia" is used to indicate that the information/ data being transferred over the network may be composed of one or more of the following:

- Text: it includes both unformatted text, comprising strings of characters from a limited character set, and formatted text strings as used for the structuring, access and presentation of electronic documents
- Images: this includes computer-generated images, comprising lines, curves, and circles, and digitised images of document and pictures
- Audio: this includes both low-fidelity speech, as used in telephony, and high-fidelity stereophonic music as used with compact discs
- Video: this includes short sequences of moving images (also known as video clips) and complete movies/films (Kalmbach, 1994:60).

At the University of Zululand students uses multimedia on a daily basis. They also have access to computers, television, audio and the Internet.

2 Statement of the Problem

The University students experience numerous problems in the use of multimedia. Students tend to use out of date printed sources extensively for information while they have access to computers where the most current and exhaustive information can be found from the Internet. The old fashioned way of writing assignments using freehand seems to be prevalent, thus the students present scripts to their various lecturers, which are not typed when submitting assignments. Even in the library they tend to search for books manually/randomly not using the Opac system, which has multimedia graphics and text to show you where to find the book. It would thus seem as if students experience problems in using the multimedia application programmes, such as the OPAC systems and the Internet to find information, thus making them ineffective mechanisms.

3 Aim of study

The aim of this study was to investigate the level of use of multimedia by students on campus.

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4 Objectives

- To describe the elements of multimedia
- To find out if students have knowledge of multimedia
- To find out if they are satisfied with the multimedia they are using
- To find out how much time they spend on multimedia
- To find out whether multimedia is effective in their studies
- To find out which problems they face when using multimedia
- To be able to suggest solutions to the problems facing the students

4. Research methodology

The quantitative research method was used. A survey using a questionnaire as the research instrument was used for data gathering. The population was the students using multimedia on campus, which totaled about 6000 students. A sample of 0.333% of the students was selected giving a total of 20 students to be targeted. The reason for the sample size was both financial and also because it was assumed that the 20 students could provide enough information to make conclusions concerning multimedia utilization on campus.

The questionnaire contained both open-ended and close-ended questions. Once completed it was distributed amongst the students. All the questionnaires were received back, giving a 100% return rate.

The data was analysed using the manual method. This was possible because of the small number of questionnaires.

Problems experienced:

- Some of the students had no time of answering the questionnaires
- Some students did not know the concept of multimedia
- Some students knew nothing about a computer

- Some students did not want to answer the questionnaire claiming it was a waste of time.

4. Data analysis

4.1 Knowledge of multimedia

The respondents were asked indicate whether they understood what the term multimedia indicated. Most of the respondents knew what multimedia is, as eighteen (90%) indicated positively and only two (10%) negatively. (After explanation they were able to continue with the questionnaire.)

4.2. Types of multimedia used

Respondents were required to indicate which multimedia sources they use. Table 1 indicates their responses:

Table 1: Types of multimedia used

Types of Multimedia used	N = 20	%	No response	%	Total	%
Internet	12	60	8	40	20	100
Multimedia CD-ROM	0	0	20	100	20	100
ATM	5	25	15	75	20	100
SMS via cell phone	2	10	18	90	20	100
Web-CT	1	5	19	95	20	100
Other (specify)	0	0	20	100	20	100

Most of the respondents use the Internet (WWW) for searching. Twelve (60%) respondents used Internet, five (25%) respondents used ATM, two (10%) respondents used SMS via cell phone, and one (5%) respondent used Web-CT. No (0%) respondent used Multimedia CD-ROMs.

4.3 The frequency of multimedia usage

To determine how often the Multimedia resources were used the respondents had to indicate how often they used it. A scale of “Often”, “Seldom” or “Never” was used to rate levels of utilization.

Table 3: Frequency of Multimedia Usage (N=20)

	Often	%	Seldom	%	Never	%	Total	%
ATM	8	40	5	25	7	35	20	100
Internet	12	60	8	40	0	0	20	100
SMS via cell phone	2	10	16	80	2	10	20	100
Multimedia CD-ROM	0	0	5	25	15	75	20	100
Web-CT	5	25	11	55	4	20	20	100

Eight (40%) respondents often utilize multimedia by using the ATM, while five (25%) respondents seldom utilize ATM multimedia, and seven (35%) respondents who never utilize the ATM multimedia application. Twelve (60%) respondents often utilize the Internet multimedia application, eight (40%) respondents seldom utilize it and no (0%) respondents ever utilize the Internet. Sixteen (80%) respondents seldom utilize multimedia for SMS via cell phone whereas two (10%) respondents both use it often and never. Fifteen (75%) respondents never utilize Multimedia CD-ROMs, while five (25%) respondents seldom utilize it. No (0%) respondents indicated often utilization of Multimedia CD-ROM's. Eleven (55%) respondents seldom utilize multimedia for Web-CT purposes, five (25%) respondents often utilize multimedia for Web-CT purposes and four (20%) respondents never utilize multimedia for Web-CT purposes.

4.4 Time spent using Multimedia (N = 20)

Time spent using Multimedia should give a clear indication of its benefit to students. Respondents were asked to indicate how much time they spent using Multimedia. The response is indicated in Table 4.

Table 4: Time spent on using Multimedia

	N = 20	%
I'm not using multimedia	0	0
1-30 minutes per day	6	30
30-60 minutes per day	3	15
60-90 minutes per day	7	35

90-120 minutes per day	4	20
Other (specify)	0	0
Total	20	100

Respondents seemed to spend a fair amount of time on multimedia applications. Seven (35%) respondents spent from 60-90 minutes per day, six (30%) respondents spent from 1-30 minutes per day, three (15%) respondents spent from 30-60 minutes per day, four (20%) respondents spent from 90-120 minutes per day.

4.5 Reasons for using multimedia

*Table5: Reasons for using Multimedia N=20 % No % Total %
Response*

	N = 20	%	No response	%	Tot al	%
To socialize	17	85	3	15	20	100
To withdraw money from ATM	9	45	11	55	20	100
To increase my knowledge for study purposes	20	100	0	0	20	100
To find information to do assignments	20	100	0	0	20	100
Entertainment	12	60	8	40	20	100
To do Web-CT assignments	14	70	6	30	20	100
To communicate with my lecturer	16	80	4	20	20	100
Other (specify)	0	0	20	100	20	100

All twenty (100%) respondents utilize multimedia for the purpose of increasing knowledge pertaining to their studies as well as to search for information to do assignments. Seventeen (85%) respondents use multimedia to socialize. Nine (45%) respondents utilized multimedia for the purpose of withdrawing money from the ATM, while twelve (60%) respondents utilize it for the purpose of entertainment. Fourteen (70%) respondents utilize multimedia for the purpose of doing Web-CT assignments. Sixteen (80%) respondents utilize it for communicating with their lecturers. No other reasons for using Multimedia have been indicated.

4.6 Satisfaction of needs

Table 6: Multimedia applications satisfying your needs

	N = 20	%
Yes	19	95
No	1	5
Total	20	100

It seems that multimedia applications satisfy the needs of the respondents because the majority agrees that it satisfies their needs. Nineteen (95%) respondents who chose “Yes” and only one (5%) respondent indicated that multimedia applications did not satisfy their needs.

4.7 Needs satisfied

The respondents were asked to specify which needs were mostly satisfied by the use of Multimedia. Table 7 provide some insight into their responses:

Table 7: Needs satisfied

	N = 20	%	No response	%	Total	%
Socializing via SMS needs	16	80	20	100	7	35
Entertainment needs	4	20	0	0	13	65
Study needs	20	100	20	100	20	100
Information needs	11	55	20	100	0	0
ATM (money) needs	9	45	0	0	0	0
Other (specify)	0	0	20	100	20	100

It is seen that multimedia applications are mostly used to satisfy the study and information needs because all twenty (100%) respondent’s responded positively to this option. Sixteen (80%) respondent’s needs were satisfied by using multimedia applications for socializing via SMS. Eleven (55%) respondents had their needs satisfied by entertainment while seven (35%) respondents had their ATM needs satisfied.

4.8 Effectiveness of multimedia in studies

The respondents had to indicate if Multimedia applications were effective in their studies. The responses are reflected in Table 8.

Table 8: Effectiveness of multimedia in studies

	N = 20	%	Total
Effective	20	100	20
Not effective	0	0	0

All the respondents (100%) agreed that multimedia is effective in their studies.

4.9 Reasons why multimedia is effective

Respondents were asked to indicate why they think Multimedia is effective especially regarding their studies. The following were given reasons:

- Because I get information and I communicate with other people
- It gives me information and also keeps me updated
- It is safer and quicker, especially the ATM
- I get any information I want faster through the Internet
- It helps me to obtain information and to apply what I learn during lectures
- Because I'm able to contact my lecturer through e-mail or Web-CT if I did not understand during lecture
- I get updated and have fun
- Because I do not get bored and get the information I need for studies
- Because everything that I want is there on the Internet, so it is easy to access information unless the server is down
- It assist in broadening my knowledge about, and revealing recent discoveries
- Exposure to Internet broaden my knowledge and assist on updating recent research and answers most the questions needed for assignments, curiosity and understanding
- Now I know more about every thing in the world
- It answers keywords that I do not understand through electronic dictionaries
- Because I sometimes share information with other students from other universities through video conferencing

4.10 Rating of statements concerning multimedia utilization

Table 10: Rating of statements

	A g r e e	%	S A t g r r o e n e g l y	%	D i s a g r e e	%	S D t i r s o a n g g r l e y e	%	N o r e s p o n s e	%	T o t a l	%
Multimedia is effective for learning purposes	0	0	20	100	0	0	0	0	0	0	20	100
Multimedia is effective for gathering information	0	0	20	100	0	0	0	0	0	0	20	100

Students are well taught how to utilize multimedia	7	35	0	0	10	50	2	10	1	5	20	100
The computer labs provide efficient access to multimedia information sources	12	60	3	15	2	10	1	5	2	10	20	100

All (100%) the respondents strongly agreed that multimedia is effective for learning purposes. It shows that multimedia is effective to students because all the respondents strongly agreed to the one statement.

Twenty (100%) respondents strongly agreed that multimedia is effective for gathering information. It shows that multimedia is effective for gathering information to students because all the respondents strongly agreed to the one statement.

Regarding the third statement it shows that students are not well taught how to utilize multimedia because ten (50%) of the respondents disagreed that they are well taught whereas seven (35%) agreed, zero (0%) strongly agreed, two (10%) respondents strongly disagreed and one (5%) respondents did not respond.

It is seen that the computer labs provide efficient access to multimedia because twelve (60%) respondents agreed to the statement and three (15%) strongly agreed. Two (10%) respondents disagreed to the statement; one (5%) respondent strongly disagreed. Two (10%) respondent had no comments to the statement.

4.11 Problems faced when utilizing multimedia

Table 11: Problems faced when utilizing multimedia

	N = 20	%	No response	%	Total	%
CD-ROM drive not working	4	20	16	80	20	100
Icons disappeared from the tool bar	12	60	8	40	20	100
Log-in problems	9	45	11	55	20	100
ATM has no enough money	13	65	7	35	20	100
Computer has virus	15	75	5	25	20	100
No network, so SMS do not connect	20	100	0	0	20	100

The majority 20 (100%) seems to have problems with the non-functioning of the network, as it bar them from sending SMS's. Viruses on the computers seem to also be major problems as 15 (75%) indicated it as such. Other major problems identified were Icons disappearing (60%) and the failure of the ATM to provide money when requested (65%).

4.12 Overall impression of the service from using multimedia applications

Respondents were asked to give their overall impression of the service they get from multimedia applications. It is reported in Table 12.

Table 12: Overall impression of the service of multimedia

	N = 20	%	Total
Satisfactory	20	100	20
Unsatisfactory	0	0	0

It is seen that multimedia is satisfactory to the respondents because all twenty (100%) responded positively.

4.13 Suggestions to improve services

No suggestions were put forward.

5. Summary of findings

The findings prove that the respondents have knowledge of multimedia because the vast majority indicated that they have knowledge of multimedia. This awareness has been highlighted by the fact that they indicated utilization of a variety of multimedia applications for a number of different reasons.

The findings prove that respondents are satisfied with the multimedia they are using because all respondents indicated their satisfaction.

Students seem to spend much time utilizing multimedia - the majority indicated at least daily utilization. It would seem as if the majority of time is spent on the Internet performing a variety of tasks on it.

The study showed that the respondents felt that multimedia aided to their studies and daily lives. From the reasons given to support their views it were clear that the majority felt that it contributed towards their attainment of knowledge and it kept them up to date with the latest events and news. It was also seen as a valuable source of communication.

The findings prove that the respondents do face some problems when utilizing multimedia. The majority of problems seem to be related with the software as well as some hardware problems. Many problems could probably be easily solved through proper technical services and an effective customer service. However there were no suggested solutions to the problems.

6. Recommendation

It is recommended that lab assistants and lecturers on the effective use of multimedia train students.

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