

A Multimedia content development strategy: the NAMCOL Video Production Experience

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1. Introduction

The purpose of this paper is to provide information on the multimedia production strategy specifically video production at the Namibian College of Open Learning (NAMCOL) and they reason why NAMCOL embarked on this journey. It has been established through institutional research that by adopting an appropriate strategy where ICTs are used more effectively, NAMCOL learners as well as learners and teachers from the formal education system could benefit tremendously from these programmes at secondary school level. Similarly, the broader Namibian public would be able to access and benefit from multimedia learning resources produced for NAMCOL's professional programmes.

At the time of embarking on this project, NAMCOL had reached a stage in its development where it was crucial to upscale the production of multimedia learning resources, particularly for its Secondary Education programme. However, the College commanded limited expertise in the production of video-based learning resources although this is integral to any multimedia content development approach. This project was, therefore, purposefully designed to enhance the capacity of NAMCOL staff in the development and production of video-based multimedia resources.

This paper provides a theoretical framework on the importance of video lessons in Secondary Education specifically for Open and Distance Learning (ODL) in Namibia. Due to the geographical layout of Namibia many secondary education students live in remote areas where they do not have access to schools. Network coverage in Namibia has improved tremendously and more people in Namibia have access to live television broadcast. The two broadcasters, One Africa Television and the Namibian Broadcasting Corporation (NBC) have extended their coverage over the last years to bring their service to the Namibian population.

2. THE IMPORTANCE OF VIDEO LESSONS IN EDUCATION

Producing video lessons in education became popular and the benefits can be seen in studies done. Although video lessons attract attention it is very expensive to

produce and there is no variety for schools to use. "Television can be used for supporting education, gathering attention, attracting direction, filling the blanks, reaching the masses, presenting the facts for both students and adults in terms of decreasing the problems of education" Akyurek (2005:56). Television is seen as technology and it became imperative to use it in education. "Technology used to be seen as simple a tool for education – a help, an option, an opportunity" Muffoletto (2001:11). Muffoletto (2001) further explains that if technology is not used in class you are seen as behind the times and uncaring of students.

It is therefore that Güçhan (1981) in Akyurek (2005) gives a detail of educational television programs and it is categorized in three parts as follow:

- **Instructional Programs:**
These programs present either a subject or a subject piece. They give information. Generally, a text prepared by a specialist or a specialist is presented.
- **Informational Programs:**
Either a subject or a subject piece is given to the audience in a longer time period with indirect way. It expects behavioral changes and presented usually in documentary forms.
- **Motivational Programs:**
It carries characters of first two programs and its content contains social problems with a dramatic structure, (especially with using entertaining element) audience is educated while entertained.

Tejeda's (2008: 434) on the other hand's view of using television and film is that "the use of film as a teaching tool plays an innate learning strength of the students: their robust familiarity with the visual media". Tejeda further explains that it brings diversity to education specifically, film. Film is also a particularly effective teaching tool, especially because visual culture is a leading aspect of modern society.

Furthermore, according to Calvert and Kotler (2003), "television is one of the best media to bring desirable change in the knowledge, understanding, attitude and behaviour of viewers".

Further benefits indicated by Calvert and Kotler (2003) are the following:
"Our knowledge of children's learning from television programs comes primarily from experimental studies in which children view specific television programs that have been selected and/or varied through the investigator's manipulation of the content, presentation format, and organization of the materials presented".

It is thus on the basis of the benefits television can bring to education, especially for distance education that NAMCOL embarked on this journey.

3. DEVELOPING A PROCESS

Strategy Development

The development of an appropriate strategy is crucial for any open school that would like to embark on multimedia content development and deployment initiatives. The following question is at the core of this: “What is it that your institution wants to achieve?” Responses to this question might vary and range from issues of prestige and public opinion to concerns about enhancing the quality of learning resources at your institution. The following issues need to be considered, especially in the context of producing video-based multimedia content:

1. What is the institution’s rationale for wanting to implement a multimedia approach? This core issue, answered clearly, will guide relevant staff at the institution on how to tackle all other related issues. It is critical that this rationale is correctly identified and reflected in the strategy document. Furthermore, crucial to the success of any multimedia strategy is the level to which it is embedded into the rest of the institution. It is, therefore, necessary to embed the multimedia strategy into the overall strategy of the institution and to ensure that all staff are informed and regularly updated about progress with any multimedia initiatives.

2. What is the approach? Does the institution opt for an incremental approach to multimedia content development and deployment or a “wholesale” approach? Also, what are the key principles to be applied in this process? It is important to consider these issues and to decide whether multimedia will be designed to complement/supplement print-based resources or if multimedia learning resources should be self-contained.

3. What educational methodology is to be employed? It is important to establish which educational methodology is to underpin the learning and teaching as this will shape the design of the multimedia content, in this instance, the design of the video lessons. For example, if the learning methodology requires a rich level of dialogue between the teacher and his/her learners then this will shape lesson design.

4. Will video production and/or multimedia treatment enhance the subject content to an extent that it improves understanding of concepts, knowledge and/or skills by learners? Not all content, concepts and skills are best served by using this medium. There will be times when traditional technologies, such as print, might be preferable. It is important to identify which areas of a subject syllabus are likely to be targeted using this approach and ascertain why it is believed these sections are suited to this style of teaching and learning.

5. Does your staff have sufficient capacity to write and produce multimedia learning resources that are appropriate to the new technologies or at least willing to experiment and are open to learning new skills? It is vital to reflect on this aspect in the strategy development process. It might also be necessary to think about the possible involvement of other key partners in order to ensure effective implementation of the institution’s multimedia strategy.

6. Do your learners have access to appropriate technologies? It is important that the new learning environment can be distributed to a significant number of your learners or at least that you have the ability to offer access to such facilities. Deployment issues should, therefore, be considered as part of the overall strategy development process.

7. Does the institution have the necessary equipment and software to begin developing and producing content? Creating video-based multimedia lessons requires very specific equipment and software. However, it is not always desirable to have your own video production equipment as the actual filming and editing of lessons can be outsourced. Questions in this regard need to be addressed, nonetheless, in the strategy development process.

8. How will the process be monitored and evaluated? Monitoring and Evaluation should form an integral part of any multimedia strategy. The areas that require monitoring and evaluation should be clearly identified and a framework needs to be developed for this purpose to ensure effective monitoring and evaluation.

Case Studies I, II, III and IV in this paper essentially documents NAMCOL's responses and approaches to the critical issues highlighted above.

Re-Skilling Staff

In countries new to the ICT revolution it cannot be assumed that the relevant skills already exist within the institution's staff members. It is, therefore, necessary to plan for staff re-skilling as part of the preparation phase. Skills that need to be acquired in a video-based multimedia project could include, inter alia, the following:

- Mapping out the development process
- Understanding notions of concept treatment for this medium
- Different formats for video production
- Script writing for video
- Script editing
- Using the Internet to download appropriate content
- Directing presenters and coordinating the production process
- Budgeting
- Digital editing
- Costing.

Some form of a skills audit might be necessary to identify what training is necessary, but the spin-off is that most of these skills are transferable to other multimedia initiatives and other areas of work. It is vital to ensure that staff members are willing to embrace the new technologies, that they are ready and prepared to participate in the capacity development interventions and that they demonstrate total commitment throughout the process.

Creating a Content Framework

Where the subject materials identified for multimedia treatment are fairly extensive it makes sense to create a content framework that maps the extent of the initiative. In many instances the video component of the curriculum needs to stand alone even if

it is envisaged as supplementing the mainstream programme. The framework should identify the following aspects:

- Number of lessons
- Duration of lessons
- Title of each lesson
- Key concepts and content to be covered in each lesson
- Treatment or approach to the lesson (how is the lesson to be structured so that it is contextually relevant to the learner and ensures that the learner is engaged?)
- Evaluation or assessment strategy.

Once this content skeleton has been mapped, the content framework offers an overview of what is to be covered by the series. Adjustments, additions and alterations can then be performed so that the series of programmes is a complete entity. This phase is the learning programme's formative stage.

Scriptwriting

The development of actual scripts is the learning programme's developmental stage. The basic idea of scriptwriting can be compared with the building of a house. You need a very detailed plan with sketches of how the house will look once it has been built. The house is then built strictly according to the plan. In the development of video lessons we use the same concept. The script is the basic plan with instructions on how and where close-ups, dialogue, monologue or voice-overs should be placed. The plan should also have detailed descriptions of how progression should work. As a result, it raises the following technical question: "What elements should the script contain?" For each scene, the script should specify:

- Text (exact dialogue)
- Visual appearance and layout of all the elements on each screen
- Media specifications
- Graphics
- Animations
- Audio
- Close-ups.

The script should have two columns, one for video and one for audio, and also specify:

- Interaction logic (feedback, branching or pop-up screens)
- Content flow
- Screenshots.

Scripts need to be minutely detailed. Authors need to address every issue and nothing can be assumed to be the responsibility of another member of the team. For example, the scriptwriter needs to describe in detail any computer generated interactivity. The script will serve to inform the Quality Assurance team to ensure that

it meets the programme requirements as well as the production team who will use it as a blueprint to produce the final product.

Developing Quality Assurance Standards

The large number of people involved with such a project at each of its many stages means there are many opportunities for inconsistencies and mistakes to creep in. A quality assurance team needs to be involved to maintain the integrity of the learning environment. Quality checks are essential in at least two places in the project flow. The first check should take place after the scripts have been completed. The quality assurance (QA) team needs to check that the lesson successfully deploys the project methodology, accurately deals with the subject content, contains exemplary language, and has actualised the lesson treatment agreed upon in the content framework.

The second round of checks should take place after the production phase when the filming and editing of the video lessons have been completed. Again, the QA team needs to search for errors and assess if the lessons have been distorted by practical necessities of the production process. The QA team should look specifically at the following aspects:

- Presentation (clarity of audio, fluency, pronunciation, etc.)
- Content accuracy
- Content treatment (has the content been dealt with in an appropriate way?)
- Learner engagement (will lessons stimulate learning?)
- Visual appearance (hooks, graphics, etc.)
- General strengths and weaknesses of lessons.

Production Issues

Once the scripts have been approved it is time to film and edit the lessons. A number of critical decisions need to be taken at this stage pertaining to whether or not production (filming and digital editing) of the lessons will be done in-house (provided relevant equipment and software are available), or if production will be outsourced. Even if production is done in-house, it might still be necessary to budget for certain technical issues to be resolved outside using experienced video production companies. Case Study II outlines specific considerations that informed NAMCOL's decisions in this regard. Primarily, decisions were informed by the lack of internal capacity to produce video lessons, the desire to effect skills transfer and the intention to produce broadcast quality video lessons.

In the case of this particular project, a video production expert was recruited on a contract basis to provide the following services, using NAMCOL's equipment:

- **Directing** the filming of 16 video lessons in accordance with approved scripts
- **Advising** NAMCOL scriptwriters, set builders and casting agents with regard to appropriate and effective techniques in order to maintain an acceptable standard of production

- **Filming** the lessons with NAMCOL's equipment in accordance with approved scripts
- **Editing** the recorded lessons in consultation with NAMCOL's Programme Developers (editing includes the incorporation of intros and outros and graphics provided by the College)
- **Inserting music and special effects** provided by NAMCOL for signature tunes, transitions and background
- **Mastering/Finalising** all video lessons to the standard of either PAL, NTSC or SECAM depending on which standard is commonly used in the country
- **Downloading the final products** on DV Tape or DVD (per subject) as MASTER copies
- **Ensuring that all DV tapes/DVDs are properly marked** in terms of topic (lesson) and duration.

The production expert was also expected to adhere to the following requirements:

- Programme Developers of the College should have been afforded the opportunity to co-direct during the filming of lessons in order to ensure skills transfer; and
- Programme Developers should have had the opportunity to be present during the digital editing phase as part of the internal capacity-building process and to help ensure that the final products meet their expectations.

Monitoring and Evaluation Framework

The Monitoring and Evaluation (M+E) framework should provide guidance with regard to the monitoring of project roll out, the evaluation of content as it is being produced (e.g., developmental/pilot testing) and address issues of efficiency, effectiveness and impact of the content in context. The areas to be monitored and evaluated should be clearly enunciated even before project implementation commences.

4. NAMCOL/COL CASE STUDY I:

PREPARATION ISSUES

Multimedia Strategy Development

The NAMCOL/COL video project engaged two representatives from Mindset to facilitate a two-day workshop on strategy development. Members of NAMCOL's Executive Management Team (EMT), middle management as well as professional staff participated in the workshop.

Any multimedia content produced will be in direct support of the existing print materials, or those to be created in future. In so doing, NAMCOL will seek to add value to the printed materials in the following ways:

- Address specific areas of the curriculum identified as difficult or problematic to learners (based on NAMCOL's internal and national assessments)
- Leverage the particular affordances of the various media types available i.e., interactive computer based content, audio content and video content
- Work within the particular skill sets necessary for the development of production of multimedia materials available to NAMCOL (either internally or externally).

Identifying Subject Areas

The NAMCOL Programme Developers for Accounting, English, Mathematics and Physical Science were responsible for identifying the problem areas within the subject syllabuses. They are all former teachers with many years experience in their respective subject fields. The Programme Developers followed a systematic process in identifying the subject areas for video-based multimedia treatment as follows:

1. The examiners' reports for external Grade 10 and Grade 12 examinations over the last couple of years were consulted. The reports discuss those exam questions that were problem areas for learners. A list of examination problem areas was compiled for each subject based on the examiners' reports.

2. Teachers from formal schools were then engaged in the final selection of topics and to assist in the scripting of the video lessons. The teachers were selected based on their experience in the specific subject area and years of teaching experience.

All these findings were combined and ranked in order of the most problematic areas to the least. The scope of the project was limited to two lessons per grade in each of the following subjects: Accounting, English, Mathematics and Physical Science. The ranked lists were used to identify which topics these lessons would focus on.

Staff Re-Skilling

The training of NAMCOL staff, i.e., both full-time and part-time (subject specialists) in skills that would enhance their capacity to develop and produce video-based multimedia lessons became the responsibility of two consultants from Mindset in South Africa. The capacity building programme was structured as follows: a two-day workshop at the beginning of the process (October 2008), followed by six months of online support while the process was concluded with a second two-day session in May 2009. Part-time staff was only able to attend in the afternoons since they were all school teachers and the workshop programmes were structured accordingly. The first training session focused on the following aspects:

- Mapping out the development process (scaffolding, teaching methodology best suited for this medium)
- Mapping out the production process (budget and timelines conscious)
- Understanding concept treatment for this medium
- Directing presenters and presentation skills
- Budgeting and production issues (e.g. locations, props, graphics, etc.)
- Editing of scripts (criteria for editing, use of language, situation, actors, etc.).

The training of full-time staff focused on all the above aspects while part-time staff only received training relevant to their particular role in this project, i.e., scripting of lessons.

Online support was then provided for the next six months during which the consultants reviewed the draft scripts and gave feedback to the Programme Developers. Scripts were sent to the consultants via e-mail after which it was returned with comments (track changes) for improvement. The Programme Developers were responsible for incorporating the comments with the assistance of their part-time staff. Most scripts went back to the Mindset consultants for a second time before sign off.

The second training intervention took place in May 2009. This session focused primarily on the evaluation and quality assurance of the draft video lessons. The following aspects were addressed during this intervention:

- Quality assurance criteria
- Critiquing a video lesson
- Identifying positive aspects in a lesson
- Improving a lesson without a re-shoot
- Tips on graphics
- Lighting and sound quality.

This capacity building strategy was developed in consultation with all staff involved in this initiative and ownership was secured as a result. Full-time staff members of NAMCOL were committed throughout the process, but it was indeed challenging for some of the part-time staff to attend the training interventions due to other commitments.

Mindset has conducted a comprehensive evaluation of the capacity building process and the report is available on the COL and NAMCOL websites.

Acquisition of Appropriate Equipment and Technologies

A project of this magnitude will not be possible without the acquisition of much needed production equipment and ICTs. One of the key questions to be addressed in this process relates to the availability of appropriate equipment and software to ensure successful development and production of multimedia content. Creating video-based multimedia lessons requires very specific equipment and software. However, it is not always desirable to have your own video production equipment as this might be a costly undertaking compared to possible outsourcing of this function. NAMCOL decided, in this instance, to acquire some basic video production equipment, since the ongoing production of video-based multimedia learning resources has been embedded in the Strategic Development Plan (2009 – 2011) of the institution. In addition, funds were readily available for this purpose due to the fact that the College had been contracted by the Ministry of Education in Namibia to produce and broadcast video lessons over a four-year period (2008 – 2011) as additional support for all Grade 10 learners in the country. The following software, hardware and equipment/consumables were purchased by NAMCOL in order to facilitate in-house production of the video lessons:

SOFTWARE	HARDWARE	OTHER EQUIPMENT AND CONSUMABLES
Adobe Premium	High Performance Computer with Gaming Motherboard	Canon HD/XL2 Video Camera (with Storage Case)
Adobe After Effects	2 x 22 Inch Monitors	Sony Home Theatre System
Pinnacle Studio 9 (video editing)		Tripod (Heavy Duty) and Carry Case
		105 cm LCD TV
		DV Tapes and DVDs
		4m Boom and Bag plus Microphone Kit
		High-End Digital Photo Camera and Equipment Case
		Cabling

As indicated earlier, the actual production (filming and digital editing) of the video lessons can be outsourced, but the decision to procure the above equipment was informed by NAMCOL's long-term strategy to upscale the production of video-based multimedia content. The services of production companies can be very costly. It is, therefore, advisable to do a thorough cost-benefit analysis before a decision is taken in this regard.

Furthermore, as a minimum requirement, members of the development team should ideally have computers with the following basic specifications to facilitate the scripting, editing and quality review of the video lessons: 160 gig HDD and 512 MB RAM. Laptops were given to all professional staff of NAMCOL which made the workflow easier and also enabled the Programme Developers to work beyond official working hours.

The camera, boom and tripod, combined with a set of lights, are the most basic equipment required for the actual filming of video lessons. The Canon camera ensures broadcast quality which is crucial in NAMCOL's context, since the broadcasting of lessons on national television is integral to the institution's deployment strategy. The high performance computer and additional monitors facilitated the digital editing and quality assurance of the lessons. Decisions about which software to procure are usually based on personal preferences depending on which package(s) the digital editor prefers to use. Furthermore, the acquisition of a flat screen television set (104–107 cm), although not essential, facilitated the quality assurance and piloting of the lessons. It was discovered during the piloting process that the LCD-projectors do not give a clear picture quality and this actually had an adverse impact on judgments with regard to the quality of the lessons.

Finally, a good sound system is another requirement for the pilot testing of lessons or during a quality assurance session. Good audio and good picture quality are important prerequisites of a good video lesson, especially if streamed for web purposes or in the case of broadcasting. Most broadcasting stations still prefer DV tapes, as opposed to DVDs, as this technology optimises the quality of video content.

5. NAMCOL/COL CASE STUDY II:

DEVELOPING CONTENT

Content Framework

The content frameworks for the sixteen (16) video lessons in JSC/NSSC Accounting, English, Mathematics and Physical Science were drafted prior to the first capacity building workshop in October 2008. The intention was to have draft scripts ready for this workshop to ensure a practical approach. However, additional work had to be done on the content frameworks during and after the October workshop, since specific attention was given to the structure of video-based multimedia lessons and important aspects that need to be included in the lesson framework. As a result, a detailed guideline was developed for the structuring of video lessons during the workshop.

Scriptwriting

The first set of draft scripts, developed prior to the October workshop, had to be revised by subject teams based on the basic layout for video scripts agreed during the workshop. The part-time staff members (subject specialists) were responsible for scripting the lessons while the full-time Programme Developers of NAMCOL took responsibility for checking the scripts and ensuring compliance with the basic structure. Draft scripts were also sent to content editors in order to ensure accuracy and integrity of the lessons. As the kingpins in this process, the Programme Developers then incorporated changes/suggestions from their respective content editors and submitted the scripts via e-mail to the Mindset consultants for a first round of reviews. The consultants made specific suggestions for improvement which were then incorporated by the Programme Developers and their respective teams. After this, the scripts were returned to the consultants for final review. This approach was time-consuming, but it did enhance the quality of the scripts in many ways. In fact, this process is important because it:

- Ensures a smooth flow of the process
- Ensures correctness of the content
- Encourages teamwork
- Promotes consistency
- Provides a vehicle for systematic feedback.

Benefits for the **Content Editor**

- Feedback can be specific
- A tangible deliverable for pre-production signoff.

Benefits for the **Producer**

- Picture (snapshot) of what is in the writer's mind
- Specific instructions aid production
- See all elements in context
- Common identification of elements due to consistency across all scripts.

Benefits for the **Quality Assurance Team**

- Clear specifications
- Can check final deliverables against original design
- Provides video/audit trail
- Maintains consistency.

Benefits for the **Management**

- Gauge resource requirements
- Cost estimates, if not already done
- Project management
- Cheaper and easier to make changes before production
- Audit trail.

The process of scriptwriting did not run as smoothly as expected. For some teachers, as the script writers, this was a totally new experience and they found it quite challenging to write creatively. Another initial problem experienced in the development of the scripts was the fact that the teachers could not find time during the end-of-year examinations period to draft and deliver the scripts in accordance with the pre-agreed production schedules. The fear of writing nonsensical and incoherent scripts contributed to a lack of motivation to complete the work on time.

The above challenges are highlighted in the following reflections of some colleagues:

"I am not confident enough to continue although I have gained more experience."

"From a quality assurance point I can make more educational comments and what to look for when giving critique."

"I am not confident enough in scriptwriting and need more examples in scriptwriting."

"I do not like videos and I am not confident to do videos."

"I do not have enough skills and knowledge and I am not properly prepared to do things."

"The training is too short to equip us to do a proper job."

"It is outside our control because we rely on outside people to do the work and they do not deliver to our expectations."

It is clear from these reflections that it was indeed a mentally challenging process. Although the spirit did drop at times, the good work ethic of staff members played a crucial role in ensuring completion of this task on time. The fact that staff had to continue with their normal duties, apart from this extra load, also increased the stress levels. It is extremely useful to know the appropriate terminology and to have a thorough understanding of the production and budgeting processes, but all this can be acquired through the capacity building process.

Quality Assurance

The Mindset consultants proposed a set of quality assurance (QA) criteria for the review of lessons at the second workshop in May 2009. The NAMCOL colleagues also had some prior experience in this regard with the development of QA criteria for print and web-based materials. They, therefore, found it relatively easy to adapt to the new environment. However, implementing the QA criteria was not so easy! Only a limited number of lessons were reviewed during the second workshop with the assistance of the Mindset consultants due to time constraints. On the whole, the QA team underestimated how time-consuming the process would be. Some lessons were reviewed as a team, but it was found that it would be better for the Programme Developer to sit with the digital editor to insert/change graphics and to look at the general flow of the lessons. This was a very time-consuming exercise seeing that the process was new and the initial producer/editor had to be replaced with a new one during the final stages of production. The new digital editor had to acquaint himself with the lessons before he could actually speed up the editing process in conjunction with the Programme Developers.

Quality assurance of the lessons was mostly done by the Programme Developer responsible for the subject although other professional staff were initially involved. Time and workload were two aspects that hampered the process and, as a result, quality assurance ultimately became the sole responsibility of the Programme Developer with the assistance of the digital editor.

Production

It is essential, in the initial stages of production, to do proper casting to ensure that suitable actors are identified for the roles in the different lesson scripts. This responsibility was assigned to the relevant Programme Developers at NAMCOL. They also had to ensure that actors attended rehearsals prior to the actual filming of the lessons. The building of sets and the organisation/procurement of props for their respective lessons became part and parcel of their responsibilities. The aforementioned functions could easily be assigned to a production company, if funds permit.

Seeing that NAMCOL acquired its own equipment, a video production expert was contracted to render the following services:

- Assisting with rehearsals with the actors before the actual filming of lessons commenced
- Recording the lessons
- Editing the lessons
- Designing and inserting the graphics.

This strategy resulted in its own set of challenges, because the scope of work was simply too much for one person. Also, the production expert was unable to devote the necessary time to the project in accordance with NAMCOL's expectations and

this resulted in unforeseen delays. Following are some of the problems that were encountered:

- The workload for was too much for one person
- It was a huge risk to task one person with the whole production cycle
- The producer had other projects which needed his attention at the same time
- The producer did not always adhere to the conditions that were stipulated in the terms of reference
- The producer made use of public transport and as a result was not always on time or left during shooting hours to attend to the other projects
- Editing was not done at NAMCOL as was originally agreed and this meant that the Programme Developers were not involved in the initial editing of the lessons
- There was no logical flow in completion of the lessons
- All lessons had been edited to some degree, but not completed in time
- The producer could not complete the project in the time-frame that was agreed
- The contract was eventually terminated and another editor was appointed.

The appointment of the 2nd editor resulted in the following process:

- A re-costing of outstanding work and a detailed progress report had to be done
- The new editor had to acquaint himself with the edited versions of the lessons and found it difficult to find certain source files, especially the graphics
- All lessons had to be re-edited seeing that mistakes were picked up right from the introductions
- More time was needed and extension was requested and granted by COL
- The process was time-consuming and the second editor did manage either to adhere to the pre-agreed timelines
- Pitching up late or not showing up on some days due to other commitments also contributed to the delay.

Given the above experience, it is our considered opinion that the production phase should be carefully planned and executed. Outsourcing is always an option, but even then production companies should be carefully monitored to ensure they deliver on time and within budget. NAMCOL will continue to insource production, but the different roles in terms of production, i.e., filming and digital editing will be split in future. Production experts will also be required to dedicate their time to the production of NAMCOL's video lessons for a fixed period of time to ensure that they focus on the job – this aspect will be non-negotiable!

6. NAMCOL/COL CASE STUDY III:

DEPLOYMENT

Identification of Learners for the Pilot Project

The pilot testing of the lessons, prior to deployment, was one of the key activities agreed with COL as part of the project implementation plan. On average, twenty (20) to twenty-five (25) learners per subject were engaged in the pilot exercise at each of the following NAMCOL centres/secondary schools, namely, Jan Möhr High School, Cosmos High School and Yetu Yama NAMCOL Centre (Learners, in this case, are enrolled for NAMCOL's Pre-Entry to Tertiary Education programme). Following is an indication of the lessons that were pilot-tested at each of the venues:

- JSC English, Mathematics and Physical Science at Cosmos High School
- JSC and NSSCO Accounting at Jan Möhr High School
- NSSCO English, Mathematics and Physical Science at Yetu Yama Centre

NAMCOL tutors and teachers at the various centres/schools were asked to assist with the pilot, including the identification of learners.

Preparing the Venues

It was extremely important to prepare the venues before actual piloting. In the case of this project, the following venues were utilised:

- NAMCOL Yetu Yama – this centre is on the same premises as NAMCOL's Head Office and learners attend face-to-face tuition on a daily basis. The sessions are facilitated by experienced teachers from the formal education system who are employed on a part-time basis by the College. It was critical to ensure that the tutors were informed about the project and any developments as they were to ensure the success of the pilot.

Teachers were requested to inform learners about the pilot and to ensure that learners were well-informed about their role in the process.

- Schools - Jan Möhr High School and Cosmos High School

The teachers were requested to make the necessary arrangements at the schools, especially at Jan Möhr where the piloting was done during normal school hours. The Accounting lessons were tested at this school during scheduled periods for this subject to minimise possible disruption to the school's programme. At Cosmos High School, also a NAMCOL centre, the pilot was done with the NAMCOL learners in the afternoon. The tutors who are responsible for those sessions were also engaged in the pilot.

Coordinating the pilot and preparing the venues were not an easy undertaking. The team, responsible for this activity, had to travel with all the

required equipment to the various venues. Also, challenges pertaining to insufficient power supply, too much light in classrooms/halls, inadequate sound equipment and so forth, made it really difficult and the team sometimes had to go back to the same venue for a second or a third time in order to see this activity through. Learners were required to complete a questionnaire as part of the evaluation and a lot of their comments were based on technical issues arising from poorly equipped venues as opposed to the actual quality of the lessons. *(Please refer to Appendix 1 for a detailed report on the Pilot-Testing of the Video Lessons at the above venues).*

The video lessons were subsequently broadcast on national television in the country, since broadcasts form an integral part of NAMCOL's deployment strategy. A quiz was included at the end of each lesson whereby viewers could win small prizes by submitting their responses to the College via Short Text Messaging (SMS). The College received well over 5000 SMS' from learners and members of the public which is a clear indication that the lessons have been well-received. The lessons are also available for downloading from COL and NAMCOL's websites. Furthermore, interested learners and teachers in the country are able to obtain copies of the lessons on DVD directly from NAMCOL.

7. NAMCOL/COL CASE STUDY IV:

EVALUATION

The Research Unit of NAMCOL was responsible for the overall evaluation of the project. The evaluation was aimed at determining the extent to which the COL multimedia project was implemented, whether all objectives were attained and to highlight some of the main challenges and key lessons learnt in the implementation process.

The evaluation was done against the following outcome indicators:

- Cost per content unit
- Number of staff members whose capacity was substantially enhanced through the project
- Availability of resources to communities
- Usefulness of the resources to the target audience
- Additional resources available for teachers
- Contribution to the national E-Learning portal
- Improved perception of ODL in Namibia.

Mindset conducted a comprehensive evaluation of the capacity building component of the project (outcome indicator 2, above) and a detailed report is available on the NAMCOL and COL websites. Also, the pilot study referred to in Case Study III,

addresses the outcome related to the usefulness of the new resources to the target audience (outcome indicator 4, above).

8. CONCLUSION

This overview demonstrates that the implementation of a multimedia content development strategy in the context of open schooling should not be taken lightly as such a route is complex and demanding of both time and resources. However, it is our expressed hope that you need not start from scratch but that you can learn a lot from our experiences through this manual in your pursuit to give learners exposure to the world of multimedia learning resources.

9. REFERENCES

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APPENDIX 1

Pilot Evaluation Report

1. INTRODUCTION

The Commonwealth of Learning (COL) has entered into an agreement with the Namibian College of Open Learning (NAMCOL) for a pilot project so that NAMCOL could demonstrate, research and document the potential of multimedia content in open schooling.

Sixteen video lessons were produced and recorded for broadcasting in Mathematics, English, Physical Science and Accounting – 2 lessons each in Grade 10 and Grade 12. These lessons were pilot-tested with learners at two NAMCOL centres and one secondary school in Windhoek, with the aim to assess the usefulness of the lessons to the target audience.

The pilot study was conducted by NAMCOL staff members at the following schools/centres: Jan Mohr Secondary School (Grades 10 & 12 Accounting), Cosmos High School, which is also a NAMCOL centre (Grade 10 Mathematics, Physical Science and English) and at NAMCOL's Yetu Yama Centre with learners who are enrolled for the Pre-Entry to Tertiary Education (PETE) programme (Grade 12 Mathematics, Physical Science and English).

This report presents the data of the pilot study and draw some conclusions based on the data, followed by recommendations from the learners.

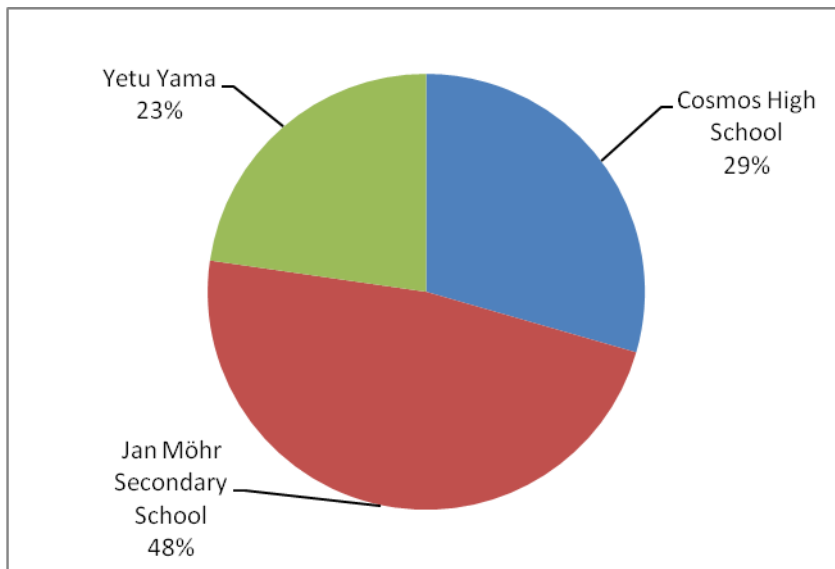
2. DATA ANALYSIS AND PRESENTATION OF RESULTS

Table 1: Total number of respondents by subject and level of study

Subject	Level		Total
	JSC	NSSC	
Accounting	65	34	99
English	17	14	31
Mathematics	21	18	39
Physical Science	24	15	39
Total	127	81	208

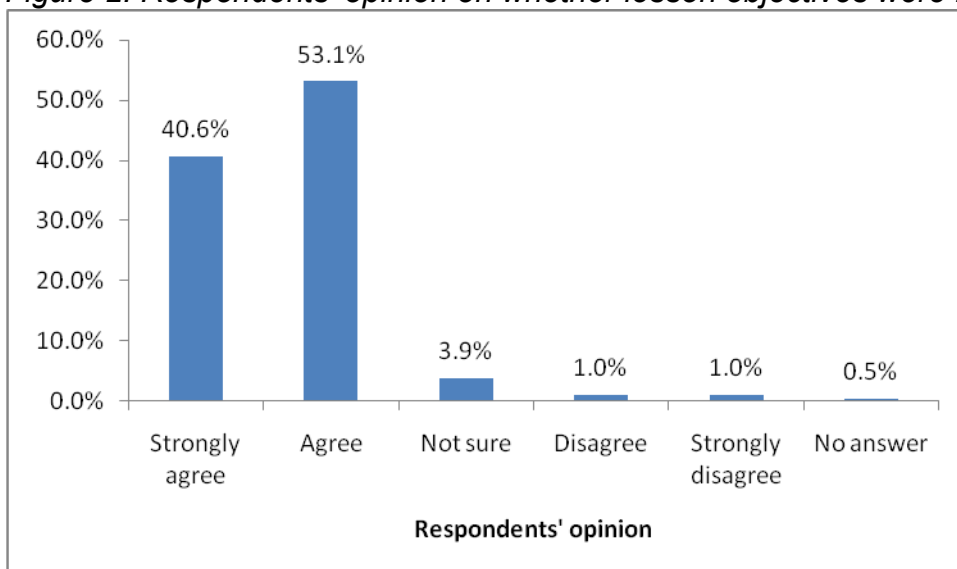
The total number of respondents was 208 of which the highest number was for Accounting with 99 (47.6%), followed by Mathematics and Physical Science each with 39 (18.8%) and finally English 31 (14.9%).

Figure 1: Respondents by school/centre



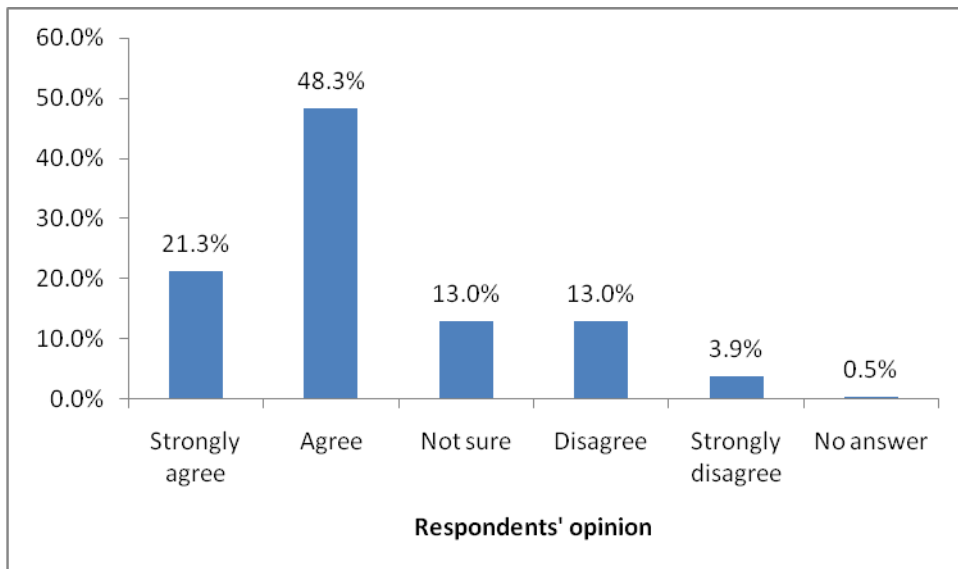
The highest percentage of respondents was from Jan Mohr Secondary School at 48%, followed by Cosmos High School at 29% and then Yetu Yama with 23%.

Figure 2: Respondents' opinion on whether lesson objectives were met



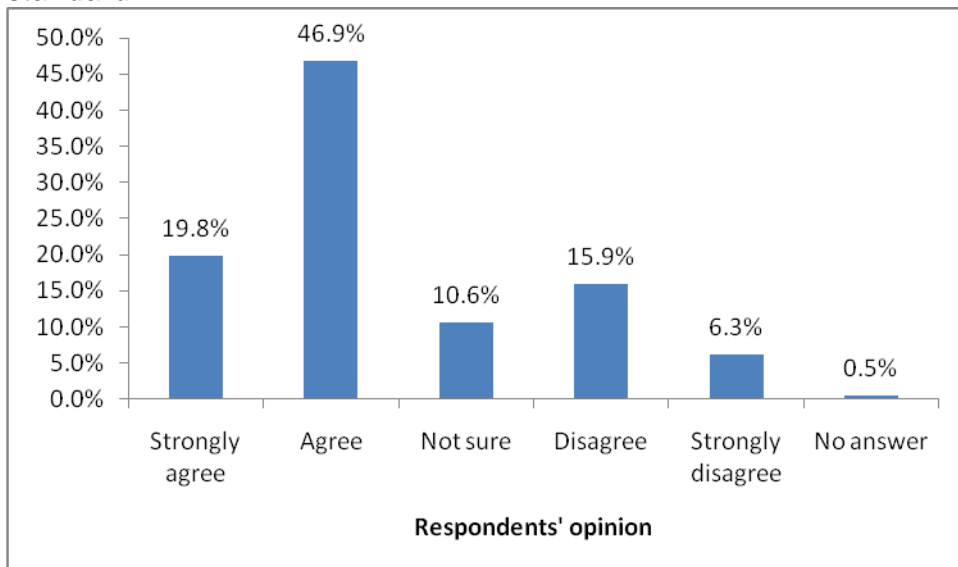
The above figure indicates that 93.7% of respondents agreed that lesson objectives were met while 2.0% felt the opposite. However, 3.9% were not sure and 0.5% did not answer.

Figure 3: Respondents' opinion on speaking clarity of actors



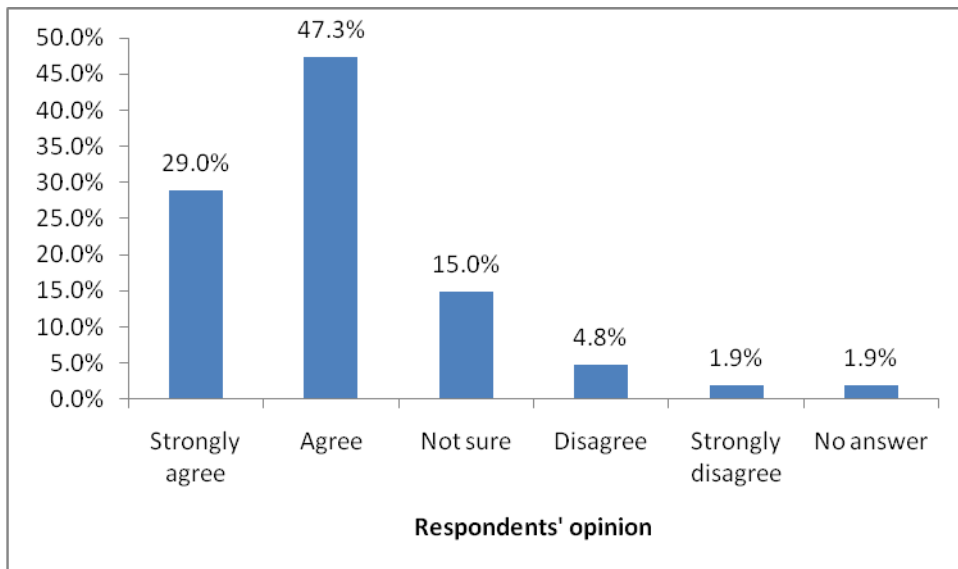
The above figure indicates that 69.6% of respondents agreed that actors spoke clearly in the lessons while 16.9% felt the opposite. Also, 13.0% were not sure and 0.5% did not answer.

Figure 4: Respondents' opinion on whether the sound quality was of an acceptable standard



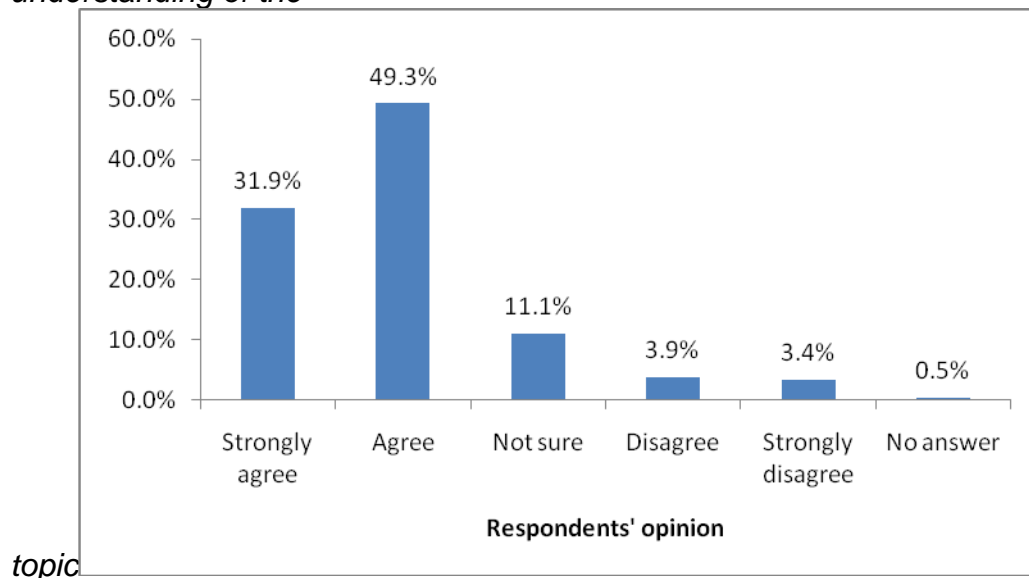
The above figure indicates that 66.7% of respondents agreed that the sound quality was of an acceptable standard while 22.2% felt the opposite. In addition, 10.6% were not sure and 0.5% did not answer.

Figure 5: Respondents' opinion on whether the visual quality was of an acceptable standard



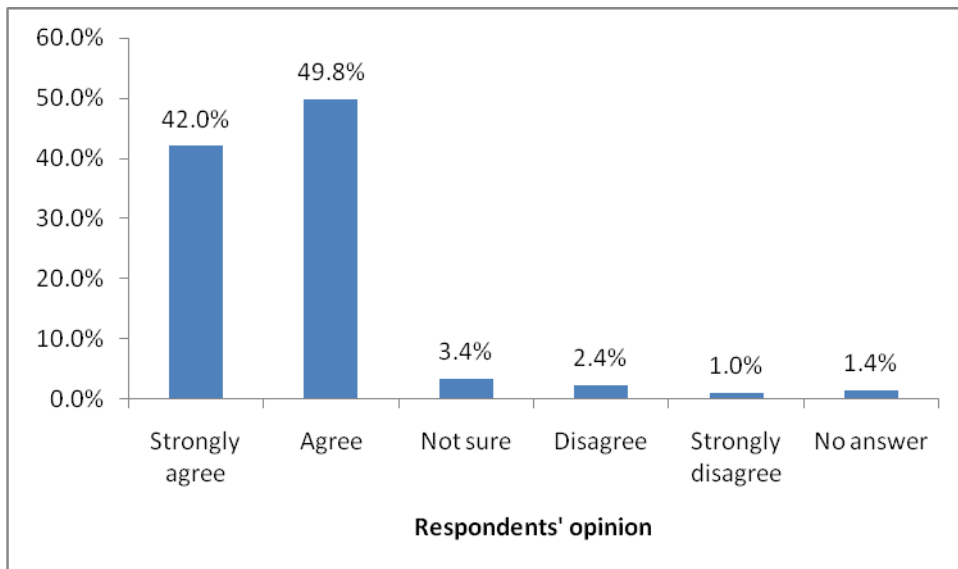
The above figure indicates that 76.3% of respondents agreed that the visual quality was of an acceptable standard while 6.7% felt the opposite. Furthermore, 15.0% were not sure and 1.9% did not answer.

Figure 6: Respondents' opinion on whether watching the video broadened their understanding of the



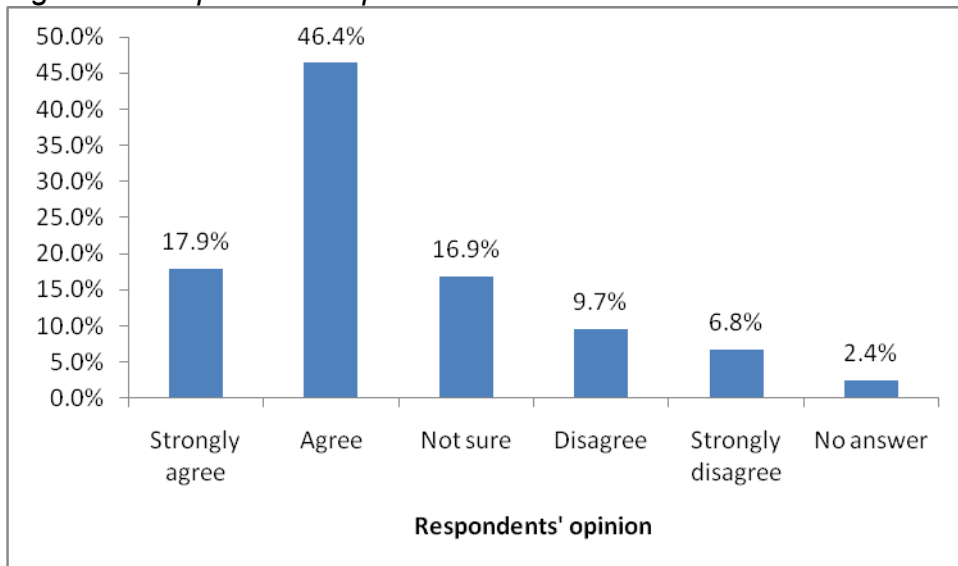
The above figure indicates that 81.2% of respondents agreed that watching the video broadened their understanding of the topic while 7.3% felt the opposite. However, 11.1% were not sure and 0.5% did not answer.

Figure 7: Respondents' opinion on whether the language used by the actors in the lesson was easy to understand



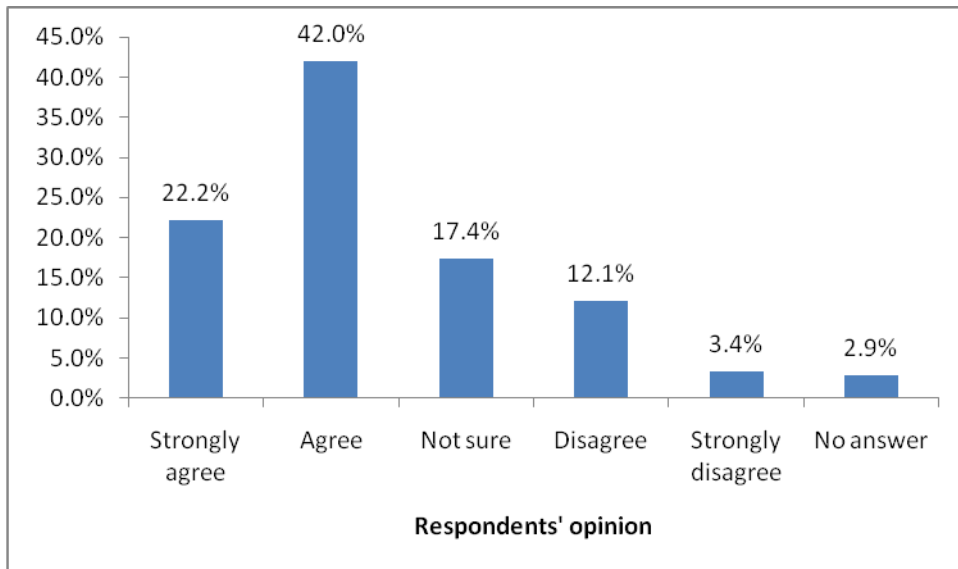
The above figure indicates that 91.8% of respondents agreed that the language used by the actors in the lesson was easy to understand while 3.4% felt the opposite. However, 3.4% were not sure and 1.4% did not answer.

Figure 8: Respondents' opinion on whether the lesson did stimulate their curiosity



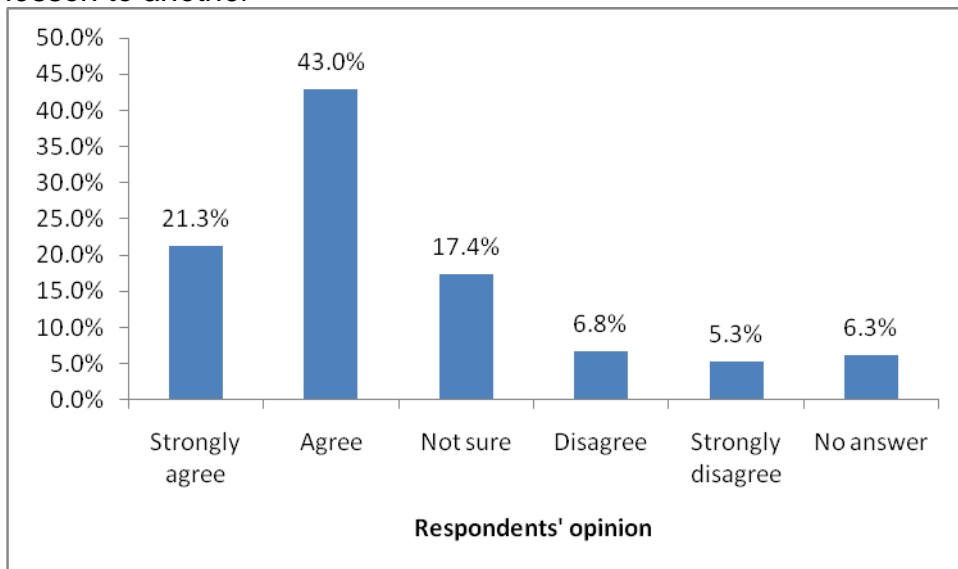
The above figure indicates that 64.3% of respondents agreed that the lessons did stimulate their curiosity while 16.5% felt the opposite. However, 16.9% were not sure and 2.4% did not answer.

Figure 9: Respondents' opinion on whether the lesson was of an appropriate length



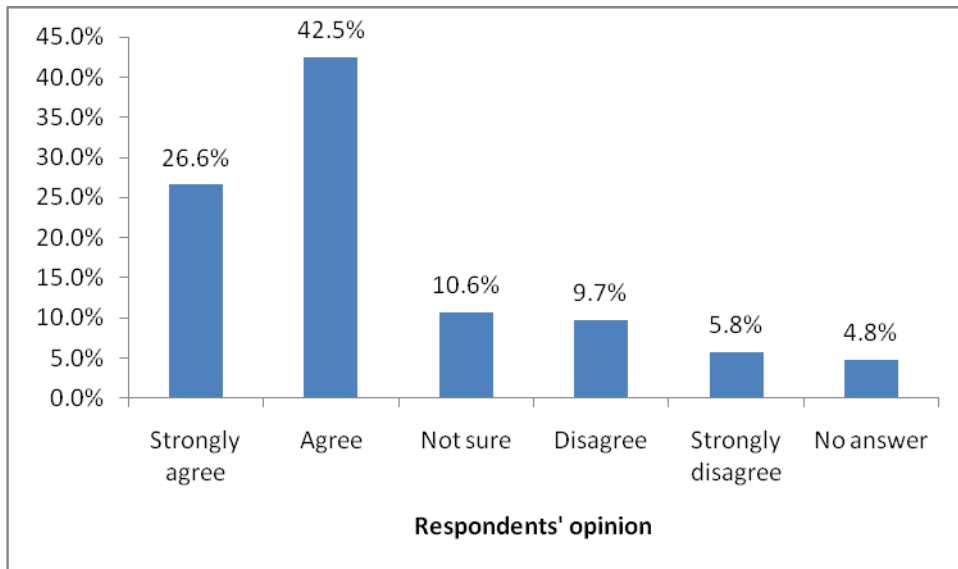
The above figure indicates that 64.2% of respondents agreed that the lesson was of an appropriate length while 15.5% felt the opposite. However, 17.4% were not sure and 2.9% did not answer.

Figure 10: Respondents' opinion on whether there was a logical flow from one lesson to another



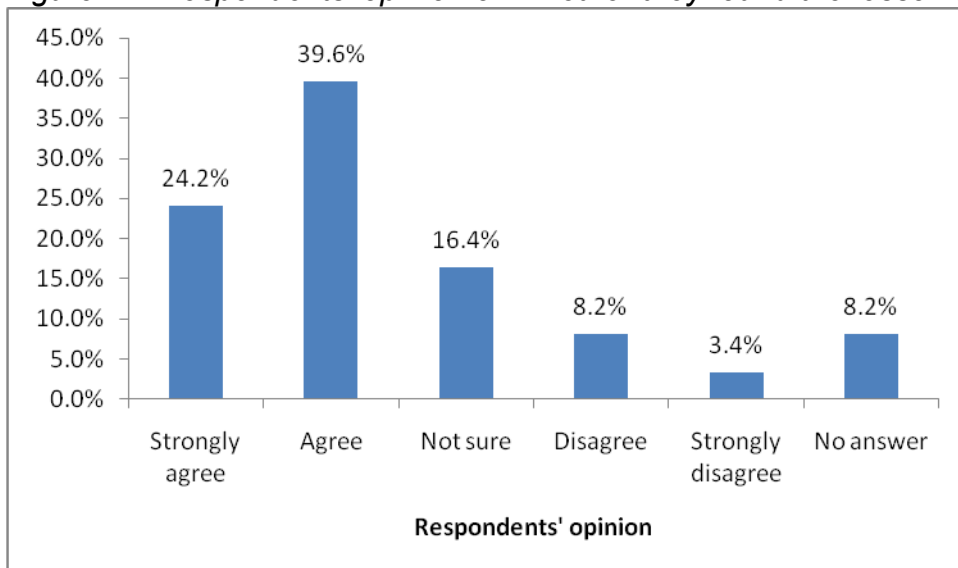
The above figure indicates that 64.3% of respondents agreed that there was a logical flow from one lesson to another while 12.1% felt the opposite. However, 17.4% were not sure and 6.3% did not answer.

Figure 11: Respondents' opinion on whether the graphics were clear



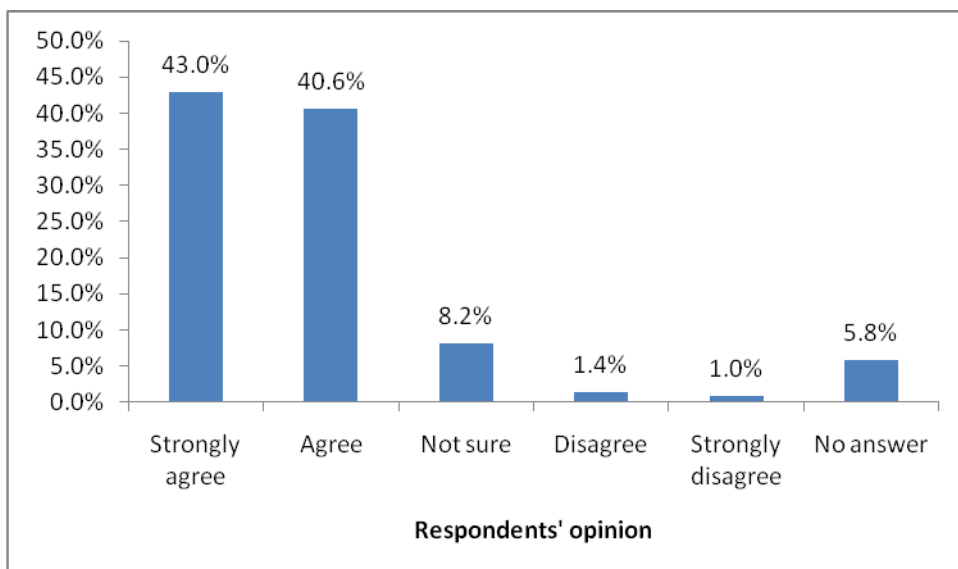
The above figure indicates that 69.1% of respondents agreed that the graphics were clear while 15.5% felt the opposite. However, 10.6% were not sure and 4.8% did not answer.

Figure 12: Respondents' opinion on whether they found the lesson to be engaging



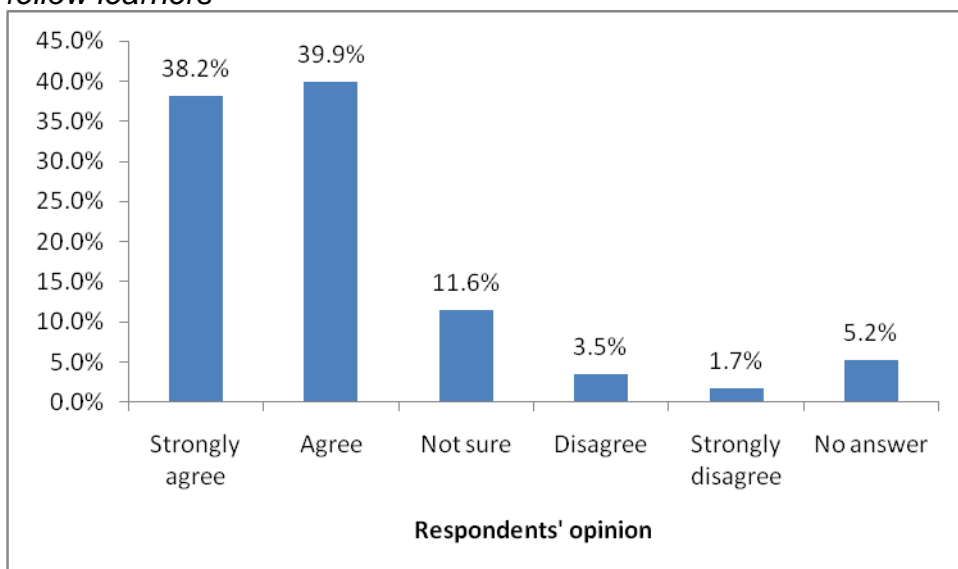
The above figure indicates that 63.8% of respondents agreed that they found the lesson to be engaging while 11.6% felt the opposite. However, 16.4% were not sure and 8.2% did not answer.

Figure 13: Respondents' opinion on whether they would like other topics to be taught through video



The above figure indicates that 83.6% of respondents agreed that they would like other topics to be covered through video while 2.4% felt the opposite. However, 8.2% were not sure and 5.8% did not answer.

Figure 14: Respondents' opinion on whether they would recommend the lesson to fellow learners



The above figure indicates that 78.1% of respondents agreed that they would recommend the lessons to fellow learners, while 5.2% felt the opposite. However, 11.6% were not sure and 5.2% did not answer.

Table 2: Respondents' general comments

General comments	No of learners

A way of motivating learners to go to classes.	1
Disadvantage of video lessons must be mentioned to illustrate its full view.	1
Extend the time	1
I enjoyed it very much	1
I think watching the video is good; it's more interesting than listening to a teacher.	1
I would like to recommend direct and indirect proportion topic to my fellow learners to do it clearly and make sure that they understand even ratio and rate too.	1
If all the lessons were in this way we could understand better.	1
It should be done more often.	1
It was boring; I could not understand what they were saying.	1
It was good.	1
It was great.	1
It's easy to remember.	1
Keep up the good work.	1
More examples will make it easier to understand	1
Much better to show the colours of the liquid that added to the test tube and bring a lot of topics to the student.	1
No answer.	177
Poor sound quality.	1
Teaching is the best than the video.	1
Thank you for bringing this system.	1
Thank you for the new program let it continue, it's easier to understand.	1
The actors should be louder next time.	1
The lesson must include as many formula for calculating things such as compound interest	1
The program was very short.	1
The standard of language used by the characters should be improved.	1
This is really good.	1
Videos must be shown in every subject.	2
Watching the video is very interesting.	1
We need other subjects like Biology to be taught on video.	1
We need to know more than one method on how to get the answer.	1
We want to hear more about what kind of diseases dirty water cause.	1
We would like to see more video in other subjects.	1
Grand Total	208

3. MAIN FINDINGS

The total number of learner respondents was 208 of which the highest number was from Accounting with 99 (47.6%), followed by Mathematics and Physical Science each with 39 (18.8%) then English 31 (14.9%). Of all the learner respondents' opinions, the following main findings were established in this study:

- the lesson objectives were being met- 93.7%;
- the actors' spoke clearly- 69.6%;
- the sound quality was of an acceptable standard- 66.7%;
- the visual quality was of an acceptable standard- 76.3%;
- watching the video broadened their understanding of the topics covered- 81.2%;
- the language used by the actors in the video lessons was easy to understand- 91.8%;
- the lessons did stimulate their curiosity- 64.3%;
- the lessons were of an appropriate length- 64.3%;
- there was a logical flow from one lesson to another- 64.3%;
- the graphics were clear- 69.1%;
- the lessons were engaging- 63.8%;
- they would like other topics to be taught through video lessons- 83.6%; and
- they would recommend these lessons to fellow learners- 78.0%.

4. CONCLUSION

The analysis of data indicates that most learner respondents are in favour of the video lessons. There are a number of reasons for their opinions. Some indicated that watching the video lessons is better than listening to the teacher. The video lessons make it easier for learners to remember the content covered.

5. RECOMMENDATIONS

Learners suggested that the following should be considered:

- improving the sound quality;
- increasing the actors' volume;
- increasing the duration of the video lessons;
- introducing more of such video lessons in all subjects;
- provision of these video lessons more often; and
- additional content coverage in all subjects.