

SEPTEMBER 1989

# cecs news

THE CAPE TOWN  
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computer society



*Opening Our Eyes*

**Creating Appropriate Media**

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*EDITORIAL*

# "Computers put media in the hands of the people."

This is a bold statement and a difficult one for people who regard computers as a tool of the rich. Yes the computer is a tool of the rich. But more and more of these weird little machines are finding their way into our backyards and ghettos, into the backrooms of our community organisations and even into our classrooms.

Each of these computers can do what only the rich with million rand typographic equipment could do 10 years ago. Today ordinary people can bring out media of a quality that only highly trained professionals using specialised equipment used to be able to produce.

This edition of CECS NEWS is proof of this. Almost the entire newsletter was produced by High School student members of CECS trained on a 5-day camp in June. "Computers For All" is not just an empty slogan but a possible reality. We decided at the camp to devote an entire issue to just this topic: Media on Computers.

Read on and savour the fruits of the decolonised computer!

PS .This editorial was produced on a new program called "Publish It!" which is very similar to "Ventura" but much easier. It was printed on a simple 9-pin Epson LX 800 printer.

# The Way Forward

With half of 1989 behind us, it would be a valuable exercise to pause, catch our breaths and look at what lies ahead.

The first six months have certainly been hectic and the next few months promises to be no different. Cecs has many exciting activities lined up.

The most imminent of these is the restart of the regional courses. The very successful June camp clearly defined the way forward for both the Media and Resource courses. For the students the course will concentrate more on actual production of regional magazines and would largely be a continuation of the work done in the first six months.

For the teachers, the regional course assumes another role, that of resource production. The course goes far beyond computer literacy to the applications of the ideas of transformative education. Subject groups have proven invaluable in facilitating the exchange of ideas and methods but have a greater value in ensuring that teachers get together to evaluate the present educative methods, discuss new ones and generate enthusiasm for implementing them.

This initiative is vital to Cecs' future work. If it fails, it is going to be much more difficult to launch any similar initiatives. These subject groups must become laboratories of a post-apartheid education system where new ideas are tried out and experimented with. A great deal of hard work and commitment is going to be needed to ensure that ours does not join that long list of failed initiatives.

Another exciting prospect is the visit of Dr. David Benzie from Britain.

Cecs deals largely with the exchange of ideas. Like other organisations, it needs regular infusions of new ideas and creative perspectives. We, in the southern tip of Africa, are starved of international contact and are not part of the development process that takes place abroad. Dr. Benzie's visit and the return of our chairperson, Ashiek, should ensure that we are at least aware of what is happening out there. We must ensure that we derive maximum benefit from their collective experience. Dr. Benzie's programme appears elsewhere in this newsletter. We invite our members and members of the public to attend these activities so as to be brought up to date with the latest educative trends in the broad sense as well as in the field of computers.

In the long term, Cecs is also planning a national (maybe international) conference on computers in education. The idea is to consult nationally on the use of computers as a tool in education. It is also an important forum in which to determine where we are hoping to go with computers. On the country-wide tour recently, we were made aware of exciting initiatives similar to that of Cecs. The conference is an attempt to bring them together and strategise the way forward over the broadest possible part.

In conclusion, for all our plans and ideas to materialise, a great deal of sacrifice and commitment will be necessary from our membership. We are confident that we will get the necessary support.

## THE PRESS CARD

To facilitate the gathering of information, each student was a journalist for the duration of the camp and was therefore issued with press cards.

It was about 10 o'clock that Monday night when the group responsible for bringing out the first newsletter, moved into action. I saw two journalists darting off towards the guest speaker for that night for an interview. Yellow press cards were flashing all over the place as the, information hungry, journalists sniffed out news on sports, hot gossip, jokes and what have you.

# Journalists at work

## TYPING UP

At about 11.30 people started to type up their articles. Tired fingers were moving feverishly over the unfamiliar keyboard searching for those "a"s "b"s and "c"s to meet the deadline that was set at 12.30.



## LAYING OUT

But it was far from over. Now it was time to print-out and lay-out the articles. Here the deadline was set at 1.30am. I doubted whether even the thought of popping off to bed ever crossed one of the journalists' mind.

## BIG DEMAND

The standard of the first newsletter was maintained by the groups responsible for bringing out the newsletter of the following days. At this stage the CAMP TIMES was something not to be missed. The editors had lots of explaining to do when angry camp participants asked why their articles, especially their letters to Aunt Agony, were not printed. Fortunately these participants accepted the explanation that due to a lack of space as well as the state of emergency, their articles and letters could not be published.

## BURNING RETINAS

It was very easy to spot the camp participants who were responsible for producing the newsletter the previous night. But then the course content of the camp itself was so interesting that these journalists would not dare to fall asleep for fear of missing out on one exciting moment.

VIVA YOUNG JOURNALISTS

## PRINTING

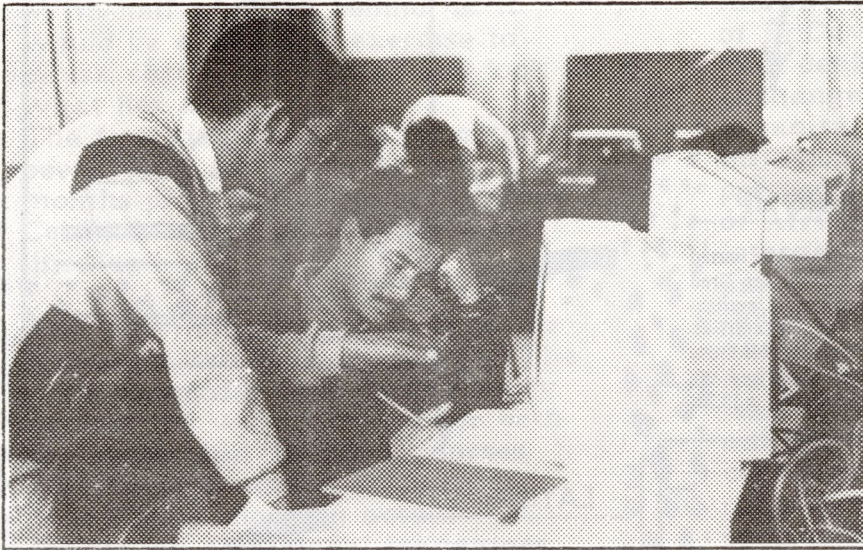
At about 3.00am all pages were laid out and the final stage of the newsletter could begin. The young journalists drank coffee and played table tennis while the laborious printing process was in progress. At about 4.30am all printing was done and collating could begin. It was at about 4.50am when tired but proud pairs of eyes stared at the publication they produced and they had to be forced to go to bed at 5.00am.

## QUALITY

Even our critics were surprised at the quality of THE CAMP TIMES. One participant wanted a full year's subscription of THE CAMP TIMES. Even the camp director, Zunar Dharvey found the advice of the wise Aunt Agony very useful.

*This page was produced on Ventura.*

# Our June Camp



*The camp was held to improve the media skills of both teachers and students.*

Recently, we, the Cape Educational Computer Society, launched our seventh camp since 1986.

CECS, which consists of the ERC (Educational Resource Committee), Medcom (the Media Committee), EOP (the Outreach Project) and the CC) the Coordinating committee, all joined together to make the camp possible for teachers and students. Schools, which are members of CECS all contributed to the success

of the camp by supplying the camp with computers, tables and printers and most importantly, people!!

*"thank goodness, I mean it was winter"*

The camp was held at Wattle Park in Noordhoek near Fish Hoek. On our arrival everyone helped with the setting up of computers, partitions, tables, chairs and posters. Teachers and students slept in rooms that hosted

seven people. Toilets with hot showers ("thank goodness, I mean it was winter") were available to participants at the camp.

The camp started on the 18th of June and ended on the 23rd of June. This was the first week after schools closed so students could still enjoy their holidays afterwards. The camp was held to improve the media skills of both teachers and students.

Newsmaster was taught to students as

well as teachers. Teachers had the added advantage of learning how to set up interesting and exciting lessons while working with other teachers.

During the News-master sessions everyone learned how to choose graphics to go with the articles they typed up. Participants also learned how to set the printer and printed their own article.

## **WAIT FORTHIS!**

Participants were encouraged to write stories for the dailly "Camp Times" which consisted of issues and events happening during the camp. All members of the medcom were divided into groups. Each group had to produce a Camp Times for breakfast the next morning. What a night that was. (read the article of journalist at work) Sometimes the groups had to work until 5.00am next morning to complete the newsletter.

Students had split sessions and were



divided into three groups ie. Publish It. Scanning and Photography.

## **What a program we had !**

- a. PUBLISH IT! is a desk top publishing program used for producing quality newsletters.
- b. SCANNING is where students learn how to copy a picture from a book or photo into the computer. This picture is then saved into the computer and can then be printed out when needed.
- c. The PHOTOGRAPHY session consisted of taking pictures and learning how to

develop them. The photography students were given assignments and took photo's in and around the camp.

## **Now from the teachers on the camp**

We went to the camp expecting to learn how to use computers. To us it meant sitting in front of the computer and operating it. After all it was called a computer camp,

**What a shock when we realised what CECS had in store for us**

besides a camp was an excellent place to spend one's vacation.



had forgotten all about and yet it is one of the most effective method of teaching.

**THIS IS HOW IT WORKS:** What you learn you teach to others and in doing so, you learn more in the process.

At the end of the camp we knew how to use the computer as a resource tool, we learned how to work in groups and how to share ideas. Each subject group has made plans to meet on a regular basis through CECS.

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## Getting it together

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By Rabla (Mitchell's Plain Student)

The combined teacher - student camp was a great success. Teachers actually had the privilege of learning how to have FUN! from the students. Only joking! It was an opportunity to interact socially as

What a shock when we realised what CECS had in store for us, a program which started at 8.00am and officially ended at 11.30pm. Leisure time was between 11.30 pm to 8.00am the next morning

On Monday morning at 9.00am we started the program with a workshop on Transformative Education, what it meant for us as teachers as well as the social and educational implications of it for students.

**What you learn you teach to others and in doing so, you learn more in the process.**

This workshop initiated a debate on the definition and the significance of education which was very important to us as teachers. The issue of Transformative Education dominated the rest of the work that followed and set the tone in which work was done. We were divided into subject groups.

Our task was to produce a resource package which we could use when returning to school. Working in a group, creating new and exciting lessons and worksheets was a new experience for me.

CECS also introduced the "Each One Teach One" concept. This is a teaching method which we as teachers

this never happens at schools. It is important that teachers and students learn to understand and get along with one another away from the school environment. The Camp created an opportunity for teachers to learn to be tolerant of our noises (some joined in). They realised that students were full of life and energy which, if channeled correctly, led to creativity.

**Teachers had the privilege of learning how to have FUN! from the students**

Students learnt to get along with teachers on an equal footing and to recognise their hard work and efforts they put into preparing lessons.

The combined social activities such as the evening sessions, concert, and washing-up duties broke down the barriers between them and created fun-filled and



hilarious moments. Students found the opportunity of conversing with teachers on a first-name basis - strange yet exciting. This increased the respect for each other because they got to know one another as individuals in their

students, as well as teachers, hope to have a repetition of such a successful camp.

**Students learnt to get along with teachers on an equal footing and to recognise their hard work and effort they put into lessons.**



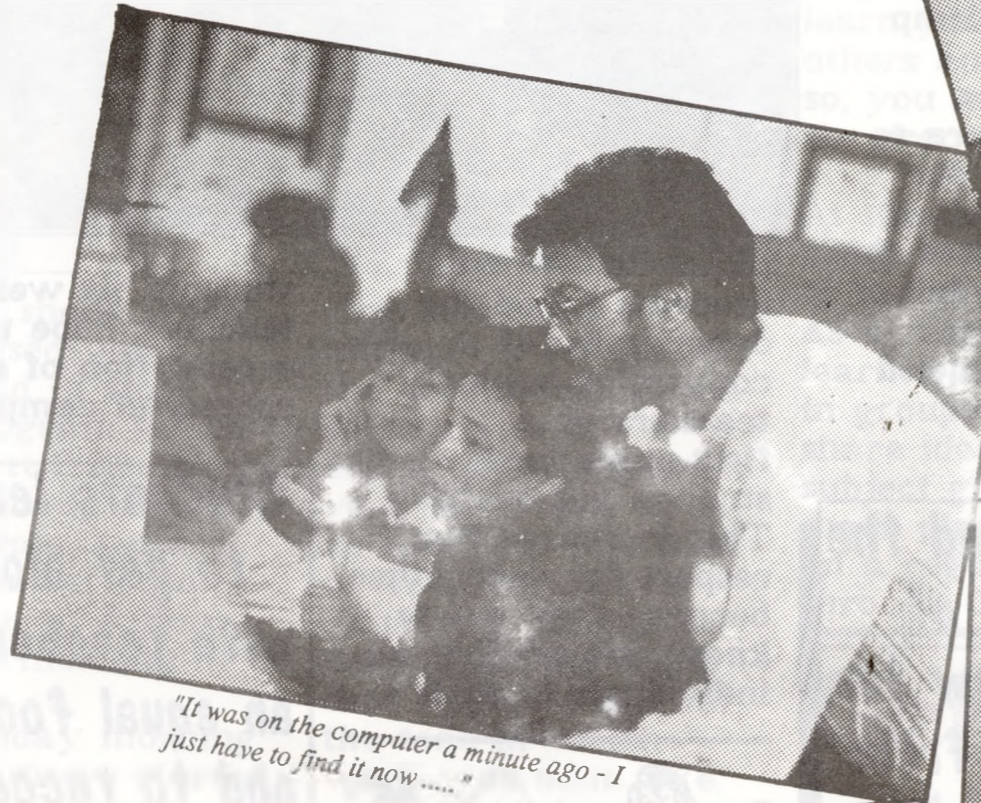
These are examples of graphics that we learnt to scan into the computer

own right. Unlike the usual "classroom top-down filling empty vessels" attitude that exists in the classroom. The

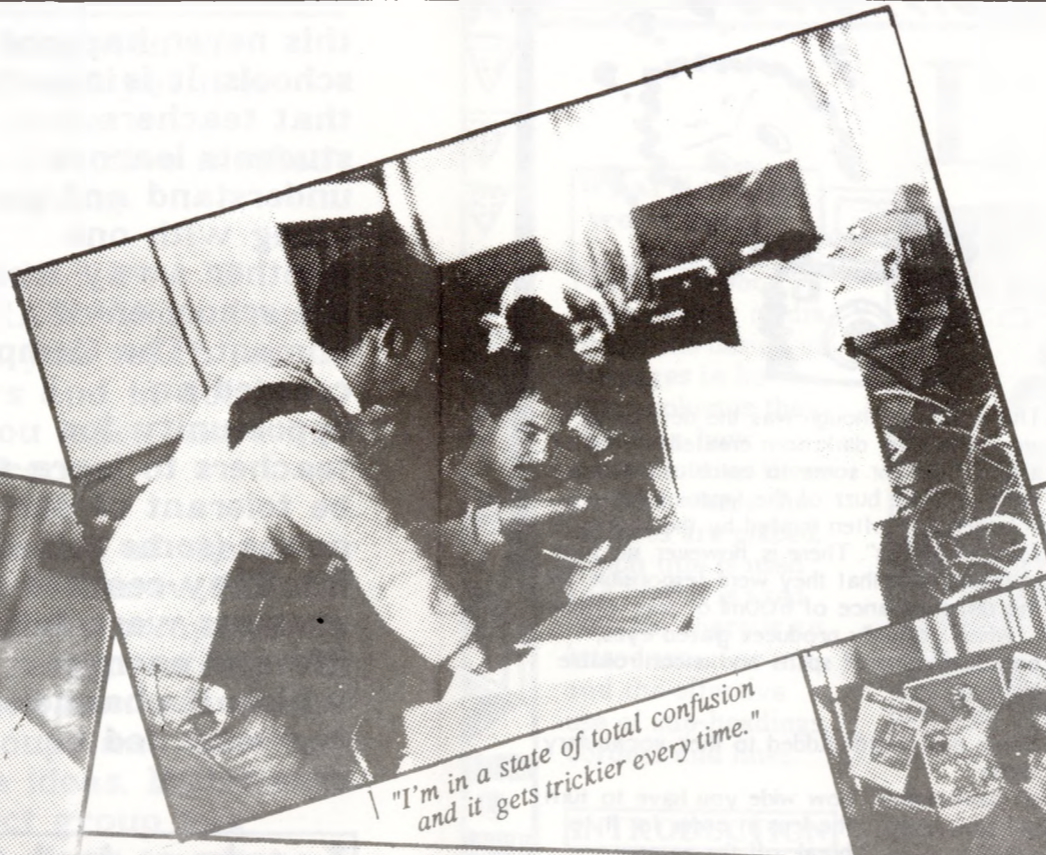


# Camp

# Scenes



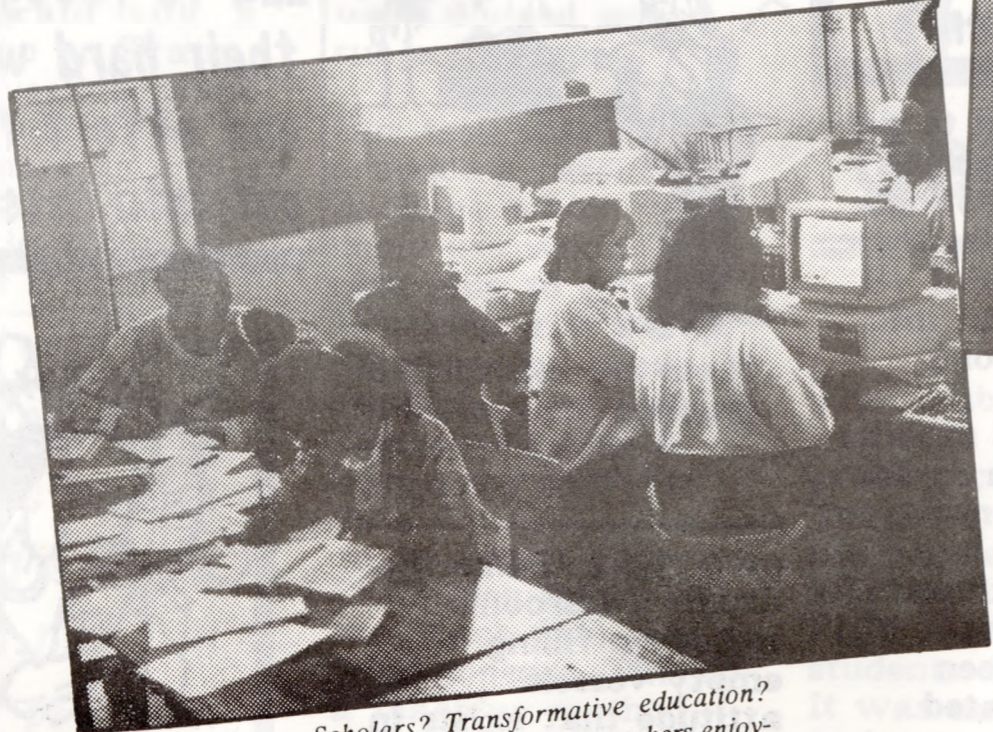
*"It was on the computer a minute ago - I just have to find it now"*



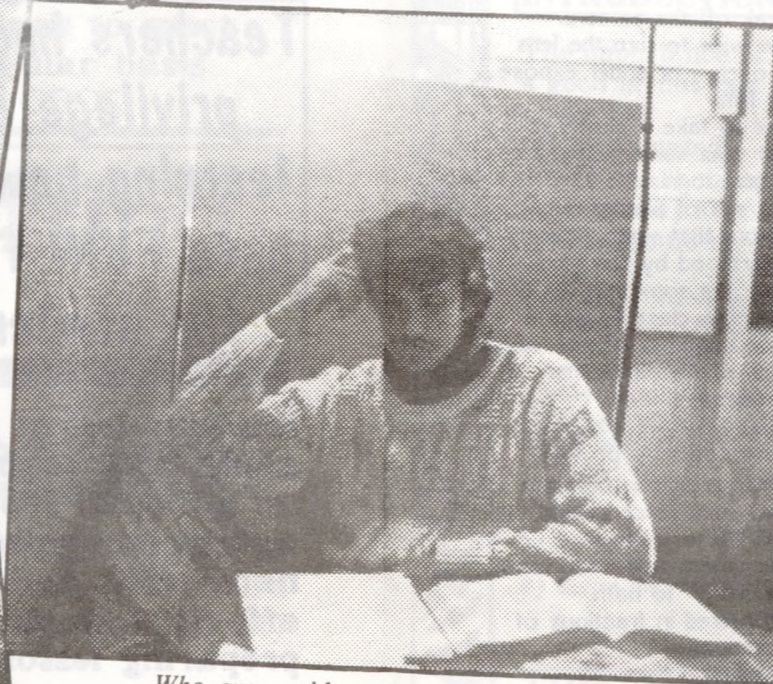
*"I'm in a state of total confusion and it gets trickier every time."*



*Discussion time - taking a break from computers....but the work continues!*



*Scholars? Transformative education? Actually they're just our teachers enjoying their vac!*



*Who ever said teachers weren't dedicated!*

***These photographs were taken by students doing the photography course at the camp.***



*"This is the screen...now that wasn't so difficult, was it?"*

# Photography Workshop

## Recipe:

- take ten drooling camp participants
- add R5 000 worth of cameras
- hold one photographic workshop
- let the "trainees" loose on fifty unsuspecting camp participants

What you now have is a situation that would make "Police Academy" look quite sane.

It would seem that the Cecs camp planners used the above recipe when it planned to include a photographic workshop. Little did they suspect what they would be subjecting the rest of the camp participants to.

The "trainees" got lost between f-stop and shutterspeed and seemed to have entered that limbo-land of the shutterbugs. They walked around the rest of the camp with one eye closed and trigger fingers twitching even when they did not have cameras around. They needed little prompting to draw their "weapons", aim and fire away in gay abandon, defying various laws of nature and moral decency.

They were given various assignments, but the one that proved the most interesting was for them to capture motion. They sometimes interpreted this to mean camera motion, resulting in beautifully composed photos of trees in motion, feet arising from a trampoline (perhaps the rest of the body was on the next frame) and blank skies (the plane moved too fast).

They also learnt about exposing film. As a result many camp participants have unknowingly found themselves exposed on film. Cecs is now negotiating a deal with Playboy for some of the prints.



The best part though was the developing workshop. The darkroom created the right atmosphere for some to catch up on their sleep and the buzz of the timer of the enlarger was often rivalled by the snores of some "trainees". There is, however, no truth in the rumour that they were responsible for the disappearance of 500ml of pure alcohol - which normally produces glazed eyes, breath smelling of spirits and uncontrollable giggling.

Some new words added to their vocabulary were:

- f-stop - how wide you have to turn the lens in order for it to break off the camera.
- aperture - how wide to turn the lens to over - or under expose the film.
- depth of field - how to take a photo so that your subject appears as unrecognisable as a dot in a sea of plants.
- focussing - a word that wasn't clearly understood by "trainees" more like something to do with how close to get in order to get a picture of each of the pimples on somebody's face.
- exposure - what dirty old man with long coats do on train stations or photography that took place behind the hall late at night.
- shutter speed - the time it takes for some "trainees" to bath. Measured in fractions of a second.

At the end of the camp they exhibited their work. It is understood that the looks of shock, horror and disgust on the faces of the other camp participants can be interpreted as general appraisal of their work. It must, however, be noted that Cecs knows nothing of the several court cases that have resulted from this photographic exhibition.

We are hoping that the effects of the photographic workshop wears off sooner that our patience wears out.

# LAYOUT

## What does the word layout mean?

The term layout when used in media means the design of the pages i.e how many columns the page has, how many pictures there are and where the pictures are placed, which title is used and how it is used, whether there is an introduction or not and the effective use of sub-headings, borders and lines.



## INTRODUCTION

The importance of a good layout can never be underestimated. There are so many reasons why a layout should be good:

- 1) It must enable you to communicate, by making your page easier to read.
- 2) Get people to read your publication.
- 3) To capture their attention.
- 4) Motivate them to read
- 5) Ensure easier reading.
- 6) Guide the reader.

## THE LAYOUT WORKSHOP DURING THE CAMP

This workshop was conducted by Sonja with Doug being the perfect assistants. There were thirty students and an Overhead Projector

was used to enhance visibility of various layouts.

Many layouts were spread out around a table and we had to choose the one which attracted us the most. We were then made aware of the correct and incorrect ways of laying out. A practical session was held where students were divided into groups and where each one had to layout an article. This session went very well. It was very

interesting, enjoyable and we had lots of fun. During the last ten to fifteen minutes we really had fun with Doug and his jokes. He was the perfect count-downer of the limited time we had. I was sure that MR.

## "FIVE SECONDS"

Douglas had no sense of timing but we overcame the continuous nagging such as "one second, two second and counting" which he called CECS TIMING. It was just unbelievable that we recovered so miraculously. Our work was then past up to be criticised by the rest of the students. Doug conducted this session so one can just imagine how it went. We went through each article and had to give points to the various sections of layout out and we then had to choose the best ones. We then had to say which one was layed out the best overallly. The best one was done by Desmond from

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This is what CECS looks like when they try to 'lay out'?

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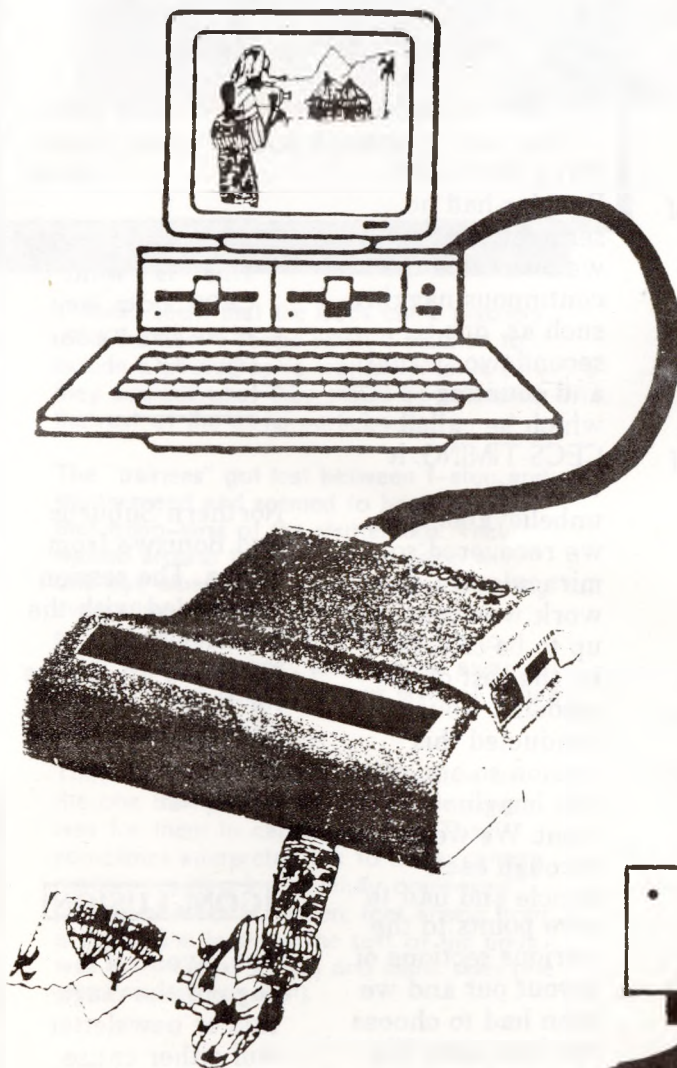
Northern Suburbs and Boniswe from Langa. The session was ended with the winners each receiving an orange for their hard work but unfortunately we did not receive anything.

## CONCLUSION

The layout of a page of the magazine or newsletter will either cause the reader to continue reading the newsletter or magazine or to put it down as soon as he had a look at it.

# Scan It!

How does it work ?



Cecs has discovered a new device and it is called a scanner. It can be used to get almost any graphic, piece of text or even photograph onto disk. Below we have a broad outline of how it works.

- It will appear on the monitor and can then be saved onto a floppy disc or onto the hard-drive. If it is saved on a floppy disk you can exit from the Scandit program and load either Ventura , Publish It , Dr Halo or PC Paintbrush.

- After selecting your picture run the the scanner over it.

- It is like a photocopier, which can be used to get graphics from a book, mag, periodical, etc. onto computer.

## Newsmaster and Scanning

Coco has discovered a new device and it is called a scanner. It can be used to get almost any graphic piece of text or even photograph onto

If it is saved on a floppy disk you can exit from the Scanedit program



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How does it work? It is like a photocopier, which can be used to get graphics from a book, map, periodical, etc. onto computer. After selecting your picture over the scanner over it, it will appear on the monitor and can then be saved onto a floppy disk or onto the hard-drive

Paintbrush. These programs can be used to edit and capture the graphic onto a Newsmaster library or the part that you want to use. To capture the graphic simply means to save the graphic you indicate. It can then be re-saved and the results is thus a new graphic in the

Newsmaster or Printmaster library. A name can then also be added for easy reference. From the "Scan-nuts"

VENTURA  
PUBLISHIT  
DR. HALO

PAINT-  
BRUSH

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# newsmaster

## Overview :

Newsmaster is a very easy to use and versatile program. It combines features such as simple word-processing combined with a host of fonts and graphics into one package. And to top it all, Newsmaster is undoubtedly the simplest most user friendly package for this purpose available.

## Environment :

All these amazing functions are controlled by a menu system. This means that the program constantly informs you of what you may do at any moment, and how to do it !

What could be simpler ? What is more, the program does not explain things in complicated terms, it shows pictures ( icons ) instead !

## Application :

Because of its simplicity and versatility, it has a wide range of applications which include letter writing, pamphlets, posters and almost any other writing application. Because the word-processing available on newsmaster is not very complex, text can be written on a dedicated word-processor and 'imported' to Newsmaster. For example, the words you are reading now were

written on MS-Word. Also pictures can be 'scanned' and also imported, ( see the article on scanning overleaf.)

## Evaluation :

Most of our camp participants were eased gently into computer Media creation by learning this program and at the evaluation at the end of the camp they seemed to have understood and enjoyed these sessions best of all .



This graphic was scanned and "imported" into Newsmaster.

# Publishing Power

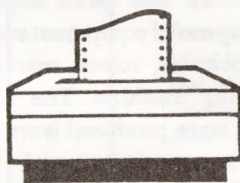
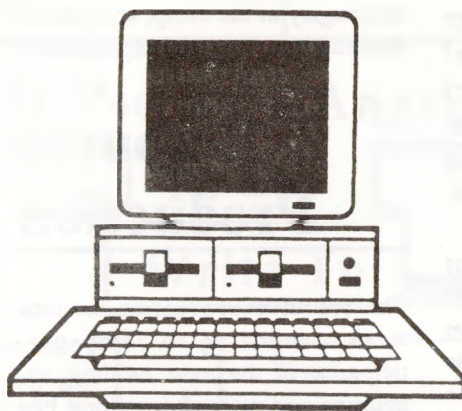
## VENTURA PUBLISHER

Ventura has become by far the most popular "publishing" programme for the IBM computers. As it is a very complex and powerful programme, it allows much flexibility for designing and layout of pages. Files can also be loaded from any of the popular wordprocessing programmes and pictures and graphics from graphics programmes. Essentially Ventura combines text files and graphics to produce laid out pages.

As a sophisticated publishing programme, with hundreds of different features, one finds that in fact it is generally too sophisticated for most people's requirements, and mostly only about a tenth of the programme is actually used.

There are drawbacks as well - firstly, due to the mystique surrounding Ventura (everybody wants to learn it!) we are beginning to find that all layout of newsletters, magazines, etc are beginning to look the same as creativity becomes stifled due to limitations of the programme. Secondly, due to the sophistication, it becomes a very complicated programme to master. Thirdly, as most of the layout is done on the computer, previous collective layout sessions now become centralised to one person sitting in front of a computer. Fourthly, Ventura prints well on a normal printer, but can only handle two different fonts or types of letters - to get a broader range of fonts a postscript laser is needed which is extremely costly.

It requires time and practice to really master the programme, often with



much frustration along the way! But it is undeniably a very useful and popular programme that is used very extensively for all kinds of media production.

## PUBLISH IT!

### **What is layout?**

Have you ever seen an article that is so attractive, that you cannot wait to read it. Perhaps you have not even realised that you tend to read an article not only because of the topic or content but that your decision to read is also very much affected by how the article looks. If you have something to say that you want people to read - then it pays to 'lay it out' nicely. This can be done in various ways but the easiest and cleanest way is to use a 'media layout' program.

PUBLISH IT! is such a program.

### **Can I work it ?**

It works on a very simple basis. Little boxes ( frames ) are used to divide the page into various sections destined to be pictures ( graphics ), writing ( text ) or open spaces ( white space ). Text and graphics can be typed or drawn on some other program like MS-WORD or PC PAINTBRUSH and then 'imported' to PUBLISH IT! for layout. Various other advantages are also available for example text and graphics can be moved around the page at any time so that you can experiment till you are happy with the result and images that were 'scanned' can also be ( indirectly ) imported. For an explanation on scanning, see the SCAN IT review also in this magazine.

### **Is it complicated ?**

If this sounds very complicated - relax. Students on our last camp mastered it in two sessions! Soon they were creating articles that looked better than those written by professional magazine companies! Ventura ( also reviewed in this CECS NEWS ) is a very similar program to PUBLISH IT! except that PUBLISH IT! though not as versatile as Ventura, is a lot easier to learn and use and also has many more writing styles ( fonts ). PUBLISH IT! is therefore an excellent stepping stone to Ventura.

### **CECS's Conclusion :**

In short, PUBLISH IT! is a very useful program with a good balance between versatility and easy use. In future PUBLISH IT! will be the standard layout program within CECS and its student media groups. This article used it!

*This page was produced on Publish It.*

# EDUCATIONAL RESOURCE PROJECT

**Our June camp was a huge success, especially in terms of consolidating the subject groups. The teachers who attended were simply amazed at the skills which they acquired.**

Teachers participated in discussions around subject groups, resource production and Transformative education before putting their ideas to practice. The discussions were very fruitful. Teachers who attended the camp, and I'm sure that there are many more out there, realise that subject groups will definitely save them much time and effort. The Educational Resource Project therefore sees, as its primary aim, to get subject groups working efficiently and effectively.

Teachers who attended the June Camp realise that, initially, it takes a lot of time and energy to discuss and work through the dynamics of subject groups and resource production. However, the time and energy was well worth it. There was much excitement when resources were being produced. The groups also realised that five minds think better than one! For many of the members in the groups, it was their first experience working in a subject group. As mentioned before, the whole subject group dynamic was discussed

thoroughly at the camp, and we are learning from our past experiences.

## Resource Production

The resource production sessions were, according to camp participants, of the most exciting, exhausting and successful sessions! For many of them, this was the first time that they had been exposed to making use of equipment such as the photocopier, roneo machine and scanning machine. The resources which were produced were very impressive, and many of the participants could hardly believe that they could be so creative! These skills and experiences are being passed on to participants at the regional course.

## Regional Course

During this semester, the teachers who are attending the course will be doing work which is similar to that done at the camp. In other words, the experiences and skills which were acquired at the camp will be passed on

to all our members in the regions. For example, the whole subject group dynamic will be discussed. The next step will be actual resource production. So teachers will be working on their resources at the weekly sessions.

## Subject Groups

At the moment, the groups are fairly strong. We have subject groups in most subjects, ie. English, Afrikaans, Maths, Biology, Science, Commerce. We do, however, realise that it will still take quite a while for the subject groups to function as effectively as we would like them to. Some reasons for this are that the idea of subject groups is fairly new to many teachers; many teachers are used to working on their own. Despite all the problems with which we are faced, we are more determined than ever to let subject groups work.

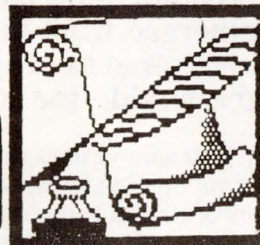
**Our main aim for this year is to CONSOLIDATE our subject groups. We realise that it will take some time, but we are certainly heading there!!**

**This page was layed out using Ventura and printed on a simple Epson printer. P.S. You don't need an expensive laser printer when using Ventura!**

Dear Editor

I like the camp very much because everybody was free to enjoy himself, do work and other things. I have no complaints about the camp. This is the third time I have been on a camp. Twice with my school and once with CECS. This one was the best.

# LETTERS



## If You Have Anything To Say Write To

This one was the best because I was a new member among the old ones but they were so friendly. It seems that I was welcome by everybody. We were like brothers and sisters and worked together as a unit. People jumped in and completed various tasks when asked to do so.

What I would like to say is that I have learned something on that camp. I learned how to be with people, how to behave during meetings and how to talk with people.

I am looking forward to the next CECS camp.

By. Derrick.R.  
(Student from Langa)

Dear Editor

The CECS computer camp produced more than what I expected.

It was organised, informative and exciting to say the least. What teachers and students once again realised was that they had a definite role to play in what was happening in their schools and in the oppressed community in which they live.

Through participating in the activities at the camp one was made aware of the exploitation, oppression and control of our lives. It was interesting and stimulating to see how the computers and other skills which was learnt could be applied in making people more aware of their situation.

Teachers and students felt that they should get more involved in activities at school, in teaching transformative education. Students realised that the education they received is an end in itself. At the camp a totally different approach was adopted to education, an each one teach one approach, issues

which affected their lives was researched. Education was seen as a learning process, a vehicle for mobilization and empowerment.

Lastly the camp taught us to respect each other as people in the struggle for a non-racial and free South Africa.

A Teacher  
from  
Mitchell's Plain

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# Ghosts in the machine

**T**hese are just a few examples of that dreaded thing that has emerged from the electronic swamps of the world - the virus!

Electronic viruses that infect computer systems, destroying information and clogging computers, are a growing phenomenon.

Many of us laugh at the stories we hear and someone was even heard to refuse to touch the computer because he was afraid of getting infected!

But for us in the 3rd World the wider use of pirated programs and the sharing of one computer by many users make our computers particularly vulnerable to infection.

*What exactly is a computer virus?*

Almost like biological viruses, they are programs that infect other disks, copying themselves secretly from disk to computer and from computer to other disks. They can also travel from computer to computer through networks (computers linked by cables or phones).

They often hide themselves on hard-disks,

disguising themselves as bad sectors, waiting for the first opportunity to strike. They may be harmless, flashing messages of universal peace and justice or they may destroy years of hard work in a few seconds.

More often than not they are made by young computer

hacks enjoying themselves "beating the system".

*Viruses do not destroy computer hardware, only the information, or software.*

Computer specialists are now seeking ways of stopping viruses. Attempts to cure and even inoculate computers have been made but the task

is made terribly difficult because viruses come in so many variations. Some even change their form, mutating to avoid detection.

## Got you!

In July 1989, a student user at UWC who was happily typing an assignment on a word processor watched in amazement as the words suddenly fell into a heap at the bottom of the screen. She lost two hours work.

In May this year in Jo'burg, another user who had collected thousands of records on a database was horrified when a message suddenly appeared on his screen "GOT YOU!" and deleted all his records from disk.

In November 1988, the Pentagon, USA military headquarters computer network linking the security agencies to its radio listening stations, was brought to a standstill recently when all its 6 000 computers ran out of memory and just stopped working.

On Friday 13 January this year thousands of computer users nervously booted up their computers fearful of the rumour that all their valuable programs and data might just disappear before their eyes.

## What do we do?

For users in Africa, however, viruses are a serious threat as copying software is common and the few machines available tend to be used by many. The least that you can do is to switch your computer off then on before you use it and to think twice before copying software.