



The Naledi3d Factory: VR in education "QUOTABLE QUOTES"

As part of a number of UNESCO-funded content projects, we also incorporated surveys to test the reactions of users of VR-based learning material. These surveys measure the value of this type of learning content; asking for inputs in multi-choice as well as free form responses.

This page provides a selection of quotes from these surveys; undertaken in Uganda (schools and multi-purpose centres) in South Africa (Mamelodi and Soshanguve High Schools); and more recently, the AlexSan Kopano Community Centre (in response to VR content on employment - how to find it; get and importantly; how to keep it...)

The following two pages also include citations from people that we have worked with, namely Peter Schioler of UNESCO and Dr Fay Chung (past Minister of Education, Zimbabwe)

Ugandan students - on how VR lessons differed from normal lessons:

"It has been different because a lot has been taught in just a few hours which is not the case with our normal lessons"
Mary - Nakaseke

"It's practical since you can operate the VR [model] yourself and takes little time to learn so many things . . . I have learnt many things in one hour."
Harriet Birabwa - Nakaseke

"It is different in . . . that I have seen with my eyes and even practice it now . . . as compared to my normal lesson where pupils study something without seeing it."
Esther Nanange - Nakaseke

"The VR lesson entails a quicker understanding of concepts underlying each lesson. It also enables quicker understanding of what is taught easily and continuously. "
Otti Alfred Okello - St Henry's College - Kitovu

"The VR lesson is different in a way that it shows clearly what one is learning... With models being rotated in all the angles one would want to learn more and more."
David Kansime - St Henry's College - Kitovu

And, from Ugandan teachers on whether or not VR was a good way of teaching learning topics:

"Yes. I'm teaching Mathematics for example. I can design various models e.g. vector geometry models and save them for demonstration purposes."
Mr Peter Ssenyimba - Kings College – Budo

"VR is really good . . . once the student is able to actually see he/she can't forget..."
Abraham Wassara - Makerere College School

hi Dave, this is James from Nakaseke tele-centre how is SA and Naledi company? I just love the VR that you u make and would need 2 learn designing one. Thanks, bye
Jimmy Ssesna (email dated Feb. 2004)

At the AlexSan Kopano Community Centre in Alexandra, South Africa, on an employment/life skills model. Here's what a few had to say:

"I wish it can be introduced in an early level of education so that many students or learners will benefit a lot."
Zenzele Mofokeng - Alexandra (Johannesburg)

The programme was fabulous""

"...It was different because in this case I got the information from a computer and it was fun the way it was designed. I have fallen for this programme. It has widened my horizon. (Thank you)..."

"...If we have programmes like this one, where we use visualization, learning will be fun, exciting, interesting and enjoyable to do..."

"...All I wanted to do is just to say thank you very much for this opportunity that I have learnt. I have learnt something about life skills through computer visuals because in life I run a life skills programme for young people.

I'm glad I was part of this team.

Nankie Kgoale - Alexandra (Johannesburg)

"I would like VR sessions to be available for every youth especially in Alex because there are so many people which are hungry for success."

Ntombifuthi Shwayiba - Alexandra (Johannesburg)

"VR lessons make the learning more enjoyable. It makes me have self-confidence and self-esteem. Thanks to the computer visuals for making the learning easier for me."
Ntombi - Alexandra (Johannesburg)

"This is a perfect programme. I think youth or anyone else should have an opportunity to use this programme . . . It highlights all the possible and important issues about employment. It also shows us the importance of self-employment and working for someone else. I enjoyed it."
Boitumelo Khunou - Alexandra (Johannesburg)

What other SA students had to say:

". . . I thought it was going to be one of those boring sessions, but this, it was exciting and modern."

Lebogang Masia - Soshanguve High School

"This VR lesson differs a lot with our lesson because I've never seen so much magic before, it is...like watching a movie . . ."
France Machele - Soshanguve High School

"It is different from another lesson because it shows pictures so that you can understand more about the lesson or topic."

Kgothatso Maseko - Soshanguve High School

"The most important thing was the rural hygiene topic which in my own words, I think is very important and helpful to people staying in the rural areas."

Tshepo Ndlovu - Mamelodi High School

"It showed us some more pictures so it is different from normal lessons. In normal lessons sometimes you just hear but don't see how you can understand."

Mathodi Masina - Mamelodi High School

From Peter Schioler, Communication and Information Advisor to UNESCO (Paris) in support of a nomination of the Naledi3d Factory to the US Museum Tech Awards, June 2004)



31 May2004
Paris

To Whom It May Concern

I am hereby pleased to endorse the nomination of **Dave Lockwood** and the **Naledi3d Factory** in the Tech Awards' Education Category 2004.

As Communication and Information Advisor for UNESCO in Southern Africa I had the pleasure of working with Dave Lockwood and his team, and I was impressed by their ground-breaking work in the domain of applying ICTs for education in developing countries.

UNESCO is championing Education as well as Information for All world-wide, and the organization sees the use of community based multimedia and telecentres as an important way to improve access to education in underserved areas. With the rollout of computers to schools and community centres in developing countries, we have a unique opportunity for creating new and innovative training materials that are attuned to individual community needs and traditional ways of communicating, -and at the same time can be shared broadly through school nets and telecentre networks.

UNESCO challenged Dave and his team, to develop a computer-based visually interactive training programme on rural water sanitation for a telecentre network in Uganda, a challenge they fully met with the groundbreaking ***Rural Hygiene in Africa*** application making use of virtual reality (VR) technology. ***Rural Hygiene in Africa*** has not only been received extremely well by the target group in Uganda, but it has continued to propagate on its own and is today being used by schools, universities, community centres and church groups in several central African countries.

The success of this pilot has sparked a number of other activities where UNESCO in partnership with Naledi3d Factory is exploring how computer based visually interactive techniques can be applied for developing better educational content and training programmes. Naledi3d Factory is today the leading company developing visually interactive training applications "in Africa for Africa".

Naledi3d Factory is however more than an excellent technical partner for UNESCO. I have personally been impressed by the company's commitment to, -in the spirit of post apartheid South Africa, seek new solutions and share know-how for the public good across the continent.

However, to champion new concepts in education and to challenge stereotypes about Africa is not easy. Dave Lockwood and the Naledi3d Factory is fighting a long and sometimes lonely battle on a continent that desperately needs more of this type of courage and innovation. The Tech Award would honour their courage and, more importantly, would provide crucial recognition for VR-based education as a viable solution to some of Africa's educational woes.

Peter Thorkil Schioler
UNESCO Paris

**From Dr Fay Chung, past Minister of Education, Zimbabwe
in support of a nomination of the Naledi3d Factory to the
US Museum Tech Awards, June 2004)**

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The Tech Museum Awards

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28th April 2004

To whom it may concern

I am delighted to support the nomination of Dave Lockwood and his team at the Naledi3d Factory in the education category of the Tech Awards. They would be a thoroughly deserving recipient for this Award!

Background

I have spent most of my professional career as an education specialist including that of Chief Educational Planner, Ministry of Education, Zimbabwe; Head of the Curriculum Development Unit, Ministry of Education, Zimbabwe; Deputy Secretary in charge of School Administration, Ministry of Education, Zimbabwe; **Minister of Education and Culture of Zimbabwe**; Chief of the UNICEF Education Section, New York; and Special Adviser on Education to the Organization of African Unity. I was the founding Director of the *International Institute of Capacity Building in Africa* (IICBA), based in Addis Ababa and which I also headed for five years until December 2003 when I retired. During this time we developed and expanded programmes in the areas of teacher education, distance learning, cost-effective utilization of ICT's for education, HIV/AIDS materials for education, curriculum development and education for nomadic pastoralists.

Relationship with Dave Lockwood and the Naledi3d Factory

I was first introduced to Dave and his team at the Naledi3d Factory through UNESCO's Nakaseke VR Rural Hygiene project in 2001. Impressed by the potential for what Virtual Reality could achieve in education (and especially in developing parts of the world); I convened a weeklong VR workshop in Pretoria, South Africa, in March 2002 with educational specialists from Uganda, Ethiopia and Nigeria. This, in turn, led to IICBA sponsoring the Naledi3d Factory to create a visually interactive HIV/AIDS learning tool to be used by Ethiopian educators. I expect this model, to significantly improve the way Ethiopian educators understand the disease, as well as in turn, improve how they educate their learners about this terrible disease.

The Role of Virtual Reality

Coming from an education background I recognise the huge potential that VR holds for education. It addresses three primary barriers in African education, i.e. literacy, language and suitable and relevant local content.

This is why I believe Naledi3d Factory's new, innovative approach (applying what is essentially a first-world technology) to education - and building interactive VR environments - are improving the way Africans learn. By bridging the literacy barrier through the use of 3D interactive models Naledi3d Factory overcomes the inherent limitations of text. As Dave keeps saying, "a picture paints a thousand words". At the same time, language differences become much less important as text is replaced by interactive, 3D images.

Finally, and perhaps most excitingly, Naledi3d Factory works closely with local stakeholders to develop the content that goes into its interactive simulations. This ensures that the content is always relevant and much more appropriate to the communities and cultures where it will be used.

David Lockwood – Some Thoughts

It is well-known that there are few greater challenges than taking a new technology to a new market. It is however even more challenging when that new market is the disadvantaged communities of Africa. Naledi3d Factory's Founder, Dave Lockwood, has, however, displayed enormous drive and commitment in surmounting this challenge. He felt so strongly about the potential for VR in African education that in 2000, he opted for retrenchment from his former employer, the Council for Scientific and Industrial Research (CSIR) in Pretoria, rather than abandon his vision.

Pockets of strong support notwithstanding, he is still at that pioneering stage but I feel confident that his passion will be rewarded in the years to come as VR enters the mainstream of African (and even global) education. David Lockwood, when prompted, would describe himself (and his team at the Naledi3d Factory) as social entrepreneurs that want to make a difference to their continent. I believe they have the "right stuff" to make this happen.

Conclusion

Honouring Dave and the Naledi3d Factory with a Tech Award will help this inspired and determined team to further their efforts in providing exciting and relevant educational content to the youth (and adults) of Africa. It will also go a long way in encouraging other champions to step forward and support this worthy cause.

Yours faithfully

Dr F K Chung