

1 What is the most important function of an Aquarium

Many functions of an aquarium's operation are important including,

- Uncompromised and best practice of animal care,
- sustainable management practices to reduce ones carbon footprint
- conservation
- support of Research programmes &
- entertainment

Having seen this list, I trust that you will notice that it is incomplete. It is missing a vital ingredient Education.

We at the Two Oceans Aquarium believe that providing meaningful educational experiences is the most important function of an Aquarium!

Within our facilities captive animals such as sharks do circuits and dolphins do breaches of their human constructed homes. It is stated that this is done so that education can occur.

These practices beg questions such as:-

- What education happens to justify having it serving its Life sentence in the exhibit?
- How much education occurs for every shark's circuit or dolphin breach?
- Does education about animals in captivity apply only to some charismatic animals?
- How much education is in reality happening at Aquariums?

If there is not a significant focus upon education, we then are simply just another fishery. We are then facilities that harvest aquatic life and temporarily delay their demise in the Aquariumwhere they ultimately die.

We all see the education banner flying around Aquariums; as an answer to the questions
why the Aquarium exists or
justifying the existence to animal rightists or
the motivating favourable responses from funders.

However, there are plenty of my education colleagues at many institutions around the world who are frustrated that once the funders are off site the real education offering is, at best hidden in some feed talk or some signage.

I argue that the educational effort is far too little and that Aquariums in the main offer token efforts towards education. Not enough education is happening at Aquariums

Evidence of this is clear

- Proceedings of the previous IACs are close to being empty of Education content
- A view of this delegate list indicates that the education directors are not supported to attend IACs. (when I last counted there were 3)

WE all know what a bad tank looks like. We all know what a diseased fish looks like. But can we recognise bad Aquarium education. It is time to recognise education that is not our best effort and to act.

For the Aquarium community, the time has come to become institutions with justifiable pride in their Education Units. The banner of Education should be flown **all the time**. We matter because of Educational experiences and our staffthink, breathe and find meaning because of being conduits of educational experience.

The best quality Aquarium Education must be

- Meaningful
- Engaging
- Develop thinking
- Supplements the curriculum by increasing levels of literacy and numeracy.
- Develops students who are better prepared to study Marine Biology, Oceanography or to be ocean conscious lawyers engineers and politicians.

We need to see our graduates making a huge difference , inducing passion and are using our captive animals to win the support of our visitors.

In most parts of the world resourced parents invest large sums into their child's education or in a house that is served by a good education district. That is because these parents they value their children and we want to protect them from receiving a Bad education. They send their children to good schools and then to Harvard, Rhodes, Yale, UCT or Oxfordand so on.

I would like to know that a parent sends their child to the Two Oceans Aquarium Environmental Education Centre **so that they can get a good education is supplied to their child. I believe that within our strategy we are starting to get to that place.**

2 Our Education Strategy

In the midst of this context I put it to you that THERE IS HOPE.

- **We take Education very seriously.**
- **Many of you were privileged enough to meet my team last night in our Environmental Education Centre.**
- **Our magnificent education team are passionate about making a difference, impacting lives and Changing the nation.**

So how has this hope come about . Firstly it is because our Curatorial and other Aquarium departments are more than 100% behind us.

Secondly our education team has developed activities that are purpose driven, innovative, challenging and forward thinking.

2.1 Our Staff recruitment and training

Human relationships are at the core of any Educational intervention. Our programmes aim to challenge, nurture as well as develop the potential of individuals to make a positive contribution to society and our planet.

The first and possibly the most important element of our Aquarium's Education strategy is the recruiting of an effective team of staff to achieve our vision and mandate. We work mainly with schools, consequently we employ formally qualified and experienced teachers with a good understanding of the curriculum and managing groups of children. Among the 8 staff in our

education team there are 6 degrees and 4 teachers diplomas. Our Junior Teacher is currently studying university level Zoology, Botany Chemistry and Environmental Science
Our staff is Diverse and representative of the local population profile.

2.2 Our relationships with the education sector

A second strategy for our Education Centre is to develop meaningful relationships with partners

- District education structures ,
- provincial education structures
- national education structures
- Boards of Governors at schools
- The South African Principal's Association
- Zoos and Aquariums
- Various boards of Environmental Education centres

2.3 Methodology

Our third strategy is to ensure that our programmes are based upon sound Education psychology and experiential learning methodologies. These are balanced with formal learning theory and informal learning theory. Our programmes are developed around scaffolded learning where different programmes are structured to build upon each other to eventually prepare students for their entry into university. Our purpose is to be an agent of change within our Nation particularly focusing upon ocean awareness and supporting sustainable life on our planet.

2.4 Our Mission/ Vision

To satisfy our vision that we foster a love, respect and understanding of our oceans for their future well being;- our education programmes includes a three-tiers.

2.5 Our three-tier education programme

2.5.1 1. School group excursions

School group excursions to the Aquarium are diverted to carefully designed discovery centres in which focussed learning can take place. The booking transport and school excursion experience is very well thought out by our staff.

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For the less resourced students we offer hands-on outreach programmes to schools to impoverished communities within Cape Town to as far as 500 km away. Our combined programmes are offered to over 70 000 school children.

2.5.2 week-long programmes

A once off short visit to our discovery centres will not meaning fully satisfy vision. More intensive week-long programmes like the Young Biologist Course for senior high school students is our most effective alternative to the less meaningful single short lived and relatively shallow visits.

Young Biologist Programme commences with the selection of applications from students. These **students are selected through a rigorous process**, the **individuals motivate** as to why they should take part in the programme, they need to be **recommended by their school life science** teachers and their school principals.

They do a **comprehensive course** in marine biology and coastal ecology similar to the volunteer courses offered at other aquariums.

YBs Commit themselves to

- at least 40 hours of **volunteering**
- contributing to their schools Eco Club programme
- Conducting a beach or river cleanup with their peers.

Start younger, more keen and are a vibrant addition to our volunteer body.

The group settles down and some move on but some stay!

As volunteers there is a test period in which their suitability is evaluated.

During the course the students are given optimal hands on learning experience.

Each morning they do written assessments and projects that enable students to apply what they have learnt back in their communities.

Outcomes of the YB graduates from 2011 has been

- ...Volunteer Hours front of house, with sleepovers, with other courses we offer and behind the scenes work with our curatorial department
- Youth Symposium
- “Voices of the future Video Conference”
- We are privileged to have a relationship with the University of Cape Town in which for the first time a full bursary covering study fees for a Marine Science and Oceanography degree.

Over time our courses have developed and in the past 6 months we have offered

- Gr 6 Junior biologist course – a fun lighter introduction to marine ecosystems
- CSI Sea si advanced Junior Biologist course
- Sea Fans
- A Gr 12 Matric revision programme

2.5.3 Marine Science Academy

We are developing a Marine Science Academy that will allow students to collect course credits incrementally year on year. We hope to motivate and equip candidates to study marine science after school.

Apart form the obvious content which covers marine biology content.

- Scientific methods are introduced including
- Properties of water including measurements of temperature, dissolved substances and
- Geology
- Climate
- Temperature
- Principles relating Pressure volume temperature light

- Light and sound
- Tides , wave patterns currents
- And Ocean resource management

2.6 Conclusion

The South African and many other education systems are in a crisis. Yet we believe that our qualified and committed education team can be part of addressing both the challenges in education, and the imperative to conserve our marine environment. And that is our hope . It could be your hope too as we offer our hand to you to share all that we have to assist your organisation become more educ efficient and for us to learn from you.

In terms of Education the Aquarium industry is going to be facing greater challenges from Education Districts in the future. A proven record of supporting the curriculum will be very

And so Colleagues I conclude. Let me express my greatest fear, my greatest fear.

That is that there will be an Aquarium that exists on this planet that I do not make a plea. My plea is that not enough education happens to justify keeping animals captive away from their eco-systems and away from their breeding habitats.

And I dedicate this presentation to a team. This is a team of Marine Educators , the finest the planet has seen. The team on whose shoulders we proudly stand at the Two Oceans Aquarium . BE, zee, Khonzani, Katja, Thabo, Saards and Blakeeee. This team will be here today . Speak to them and challenge them about questions such as .

- How do we achieve experiential learning in our Centre?
- How do we deal with multi cultural groups?
- How do we deal with multi ability groups?

And Finally I leave you with a challenge. Next week you will return to your facilities. You will go back to your meetings, budget procedures , your business. I plead with you, all here present . To step out

of your office and busy routine and speak to a child for 5 minutes each day. Talk to them , inspire them to make a difference as they face the future.

I leave you with a Grade 5 maths problem. If 500 delegates go home to their Aquariums and every day inspire a young person to become an inspiration to save our planet Ocean. How many children will be inspired if each works for 230 days.

Part B If 200 Aquarium Directors inspire 100 staff at their Aquariums to inspire one young person each day to save the Oceans. How many children will be inspired in a 230 day working day year.

I rest my case There is hope to make a huge difference.

3 Abstract

What is the most important function of an aquarium?

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At the Two Oceans Aquarium we believe that education is an Aquarium's most important function. Our education unit has developed a strategy to guide our activities. Because we work mainly with schools, we employ formally qualified and experienced teachers with a good understanding of the curriculum. Our excellent relationships with district, provincial and national education structures benefit our programmes tremendously.

To satisfy our mission statement, we are developing a three-tier education programme focusing on experiential learning activities:

1. School group excursions include a discovery centre experience in the Aquarium and hands-on outreach visits to impoverished communities.
2. More intensive week-long programmes like the Young Biologist Course for senior high school students include lectures and practical sessions, written assessments and projects that enable students to apply what they have learnt in their communities.
3. We are developing a Marine Science Academy that will allow students to collect course credits incrementally year on year. We hope to motivate and equip candidates to study marine science after school.

The South African education system is in crisis. We believe that our qualified and committed education team can be

part of addressing both the challenges in education, and
the imperative to conserve our marine environment.