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EDUCATING STUDENTS IN A UNIVERSITY MUSEUM
ENVIRONMENT:
THE ADLER MUSEUM OF MEDICINE, FACULTY
OF HEALTH SCIENCES, UNIVERSITY OF THE
WITWATERSRAND, JOHANNESBURG

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SUMMARY

Museums are now very much part of the mainstream of education and are no longer regarded as peripheral to education. They increasingly serve in South Africa as formal partners in education at primary and secondary level. University museums particularly have a formal role to play in tertiary education, with most university collections having been established to further the teaching of a faculty or school.

The Adler Museum of Medicine plays an important educational role within the Faculty of Health Sciences at the University of the Witwatersrand, Johannesburg (Wits) and is also increasingly used by schools. As the curricula for South African schools were changed after the first democratic election in 1994, and outcome-based education implemented in this country, more and more educators established contact with museums in particular learning areas of the curricula. In South Africa, there are three areas of the school syllabi which this particular Museum can directly address: great discoveries, technological advances and traditional healing and indigenous knowledge.

Key words: Museums – Education – Exhibitions - Programmes

Background of the Museum and the collection

The Adler Museum of Medicine was established in 1962 by Dr Cyril and Mrs Esther Adler who together created a remarkable private collection of medical and allied health objects and memorabilia. In June 1974, the Museum was officially handed over to the University of the Witwatersrand. Although there is a long-standing tradition of leading medical schools all over the world to develop their historical resources as a study collection, the Adler Museum is the only such museum in South Africa. The Museum now forms part of the Faculty of Health Sciences of the University of the Witwatersrand, Johannesburg.

Today the collection consists of over 30 000 objects depicting the history of medicine, dentistry, ophthalmology and pharmacy through the ages.

The mission statement of the Museum underlines its focus on education: The Adler Museum of Medicine preserves the history of the health sciences in Southern Africa, with special reference to Gauteng. It exists to supplement the educational activities of the University of the Witwatersrand, especially the Faculty of Health Sciences, by means of collections, research, teaching, exhibitions and publications.

The contents of the Museum fall broadly into three categories: the permanent collection, the study collection, and the library and archives.

The permanent collection

Items of historical interest on display include microscopes and other scientific instruments; early bleeding and cupping equipment including an exquisitely crafted incision knife; ceramic pharmacy jars dating back to the 17th century; an exquisite collection of bone china and ceramic feeding cups, some dating from the 18th and 19th

centuries; an early 19th century wooden handled amputation set in a wooden case; diagnostic and surgical instruments which include items such as stethoscopes, sphygmomanometers and X-ray equipment; treatment apparatus, including electrical apparatus advertised as 'Patent magnetic electrical machine for nervous diseases' used by Queen Victoria to ease her rheumatism (19th century) and the first electrocardiograph machine (1917) used in the Johannesburg General Hospital; early anaesthetic apparatus including a chloroform bottle and mask in leather case, ear trumpets and brass ear syringes (early 20th century); equipment relating to cardiology which include early portable ECG machines and different generations of heart lung machines; hospital and nursing equipment and medical ephemera; obstetric and gynaecological instruments such as forceps, cranial crushers and specula; and a significant ophthalmology section which includes optical lenses, colour-blindness test kits, stereoscopes, spectacles, ophthalmoscopes and surgical instruments. There are also sculptures, pictures, photographs, videos and philatelic and medallion collections relating to medical history.

Study collection

This consists of objects and other items which are either in relatively poor condition or represent unnecessary duplication of items in the permanent collection. This collection is used for educational purposes and demonstrations to groups of all ages.

The library and archives

The Museum has a library of rare books as well as a history of medicine reference library containing some 5 000 volumes, and journals relating to the history of medicine.

The archives contain documents related to the history of the Museum, an extensive subject archive (including photographs) and archives of biographical information relating to medical and other health care

professionals. The collection also includes photographs, notebooks, academic certificates, records, journals, personal papers and memorabilia of prominent doctors and academics, mainly associated with the Wits Medical School.

Museums and education in South Africa

While one could argue that education has always been at the heart of museums, with most providing educational opportunities for the public as centres for research and scholarship, it is only in more recent years that museums have begun to re-examine what education means for them and there has been a growing emphasis on the importance of all kinds of learning within museums.

David Fleming has made this point: “Museums have always dealt in learning. This is clear from any number of stories about the motivations of those who founded so many museums in the 19th century. It’s just that there has been a massive shift from passive learning to active learning as museums have, albeit belatedly, given more authority and responsibility to education professionals, and as we have moved from instruction to involvement¹”.

For many years the South African Museums Association and its constituent museums have prioritised education as a central function of museums in South Africa. This was summarised in a paper presented by the author and Dr Ann Wanless entitled: *Museum education: unlocking methods, unlocking minds*². In this paper the authors drew attention to the role played by the South African Museums Association, and specifically the active and innovative Education Officers’ Interest Group in the 1980s, which proposed many far-reaching and important strategies for the Association. In the 1990s there were many attempts to focus museum education on the transformations required to bring about a new South Africa.

After the first democratic election in South Africa in 1994, the then Minister of National Education, Sibusiso Bhengu, announced the

introduction of Curriculum 2005 (which gave birth to Outcomes Based Education in South Africa, phased in from 2004). SAMA members were quick to respond, recognising that OBE presented museums with an extraordinary opportunity to become part of the service delivery of formal education in this country.

Prior to this, to a large extent museum education was seen as informal. As Chandler Screven stated: "Learning is voluntary and self-directed in such informal settings. It is driven by curiosity, discovery, free exploration and the sharing of experiences with companions. Learning in museums, in its broadest sense, is a by-product of the free interaction of leisure oriented visitors with exhibitions and their surroundings"³.

The learning/teaching focus was on formal resources like schools and classrooms and the unique educational potential of museums was not realised or recognised.

Programmes and activities offered by museums were frequently seen as part of non-formal education, excursions which included visits to fire stations, cheetah parks and cheese factories. Pupils were brought to museums at the end of the year to be entertained in a pleasant environment while harassed teachers took time out. Services offered by museums were essentially limited to introductory tours. As the concept of pupil and teacher changed to learner and facilitator or educator, and the whole methodology changed to a focus on participatory learning, education departments in museums adapted. The methodology of OBE presented museums with opportunities to form partnerships with schools and other learning institutions to provide programmes that would not simply enrich the curriculum but became a vital element of the learning programmes themselves.

Keene and Wanless gathered statistics for the above-mentioned paper (still the most recent survey conducted in museums in this country) which indicated that in 2002 there were 29246 schools in South Africa and 7376027 learners of all ages. At that time museums were

not a primary focus in terms of being used as educational resources. The view was expressed then that many educators wanted to work with museum but would not make an effort in terms of seeking them out as resources. Museums felt that they were able to make significant contributions to the new schools curricula, particularly in the areas of arts and culture, life orientation, human and social sciences and natural sciences⁴.

The wide variety of target groups for education programmes indicated the broad based approach to education by museums in South Africa. School groups were a top priority, but in addition they played an important role in adult education at a wide range of levels. The latter included visitors drawn from the local community, international tourists, South African tourists, specialists and researchers in the museum's collecting field and family groups⁵.

The survey also revealed that a large proportion of the energy and resources of museums was already devoted to education, and that over 70% of museums were attempting at this time to become part of Curriculum 2005. The museums in our survey, which equalled about one sixth of all museums in South Africa, were then reaching over 11% of the school population. The museums in our survey attract well over 3 million visitors a year, of which 1.7 million are adults – making them an important facet of continuing education. Taking a most conservative estimate, we suggested that over five million people visit South African museums each year – a little over ten per cent of the population⁶.

It is difficult to quantify the quality of the museum experience for school children, and even more difficult to determine the extent of the contribution that a museum visit can make to a student's understanding of the learning area. No surveys in this area have been carried out in South Africa.

It has only been relatively recently in South Africa, and indeed globally, that museums have been acknowledged for their ability to

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communicate social, cultural and scientific information, and have become formal partners of resources such as teaching institutions and schools. Museums world wide now offer an alternative to formal educational settings. Although somewhat less reliance is placed on theories grounded in formal education, museums now present programmes and visits that complement and extend curricula taught in the formal situation. As the emphasis has shifted to self-directed learning, problem solving and other aspects of lifelong learning, the role of museums has changed. To quote Screver again:

To effectively communicate substantive knowledge or alter attitudes or misconceptions under informal learning conditions is a formidable but not impossible task. Self-directed learning already is part of learning sports, hobbies, music, social skills, attitudes, problem solving and other aspects of lifelong learning. Learning under natural conditions may or may not be as appropriate, useful or efficient as it might be under formal teaching conditions. But people are changed by such natural encounters, sometimes for the better, with most aspects of their daily lives, including museum experiences⁷.

It is not only the formal aspects of museum visits which teach and enrich, it is also that simply being in a museum can change perceptions and world views.

The Adler Museum and its educational role

Permanent exhibitions

The Adler Museum of Medicine's permanent exhibitions have been designed in such a way that learning is facilitated. Exhibition content is designed to take cognisance of what the students study, and the information provided encapsulates the important facts which students have to know. Objects/artefacts, ephemera and visual aids from the Museum's collection complement the texts.

Permanent exhibitions include reconstructions of an early 20th century Johannesburg pharmacy, a dental surgery, a doctor's consulting room, an optometry display and a hospital operating theatre of the same period. A history of scientific medicine is augmented with displays of several alternative modalities including homoeopathy, traditional Chinese medicine, Tibb (Unani), Homoeopathy and Ayurveda. An important stream of medicine in Africa, traditional healing, is showcased in the Museum with displays of an African herb shop and a patient consulting a *sangoma* (traditional healer).

The pharmacy dates back to 1906. The frontage of the shop which was situated in a building called Marlborough House in Beit Street, Doornfontein, Johannesburg, serves as one of the present frontages of the Museum. All the mahogany fixtures and the mosaic pattern on the floor of the entrance are of the same period. The pharmacy contains a large collection of pharmacy jars, pill makers, suppository makers, foot warmers, mortar and pestles (including an 18th century iron example), cork pressers, carboys, patent medicines, herbal and homoeopathic medicines, inhalers, bandages and other items of interest.

The optometry display contains an early 19th century refraction testing set and a collection of old spectacles, some of them dating back to the 18th and 19th centuries.

A rare collection of iron lungs, one of which was built in South Africa during World War II and one which was made for a child, form the nucleus of a display on the history of poliomyelitis.

Displays on the history of scientific medicine answer questions such as: From what diseases did our ancestors die? And what are the most prevalent diseases today?

Interpretive texts/graphics are provided to help visitors understand the context of objects on display. Particularly with technological developments, many objects may be foreign to the modern visitor. For example, the collection of kidney dialysis machines is well

labeled and illustrated in order to give visitors a clear idea of how they operated.

In the interpretive texts, the length of each individual panel is deliberately restricted to less than 400 words. Object labels are even shorter, given that:

“Visitors often must limit the time spent in museums because of fatigue, hunger, parking, appointments, and other practical problems. (The average visiting time is 1-2 hours.) The more time visitors perceive an exhibition or text to require, the less likely they will attend to it without compelling reasons to do so.”⁸

Language is also kept simple in order for the general visitor to understand the content very easily.

School learners

The Adler Museum contains a wealth of material and sources that are relevant to the Revised National Curriculum Statement (RNCS) which underpins South Africa’s primary and secondary education and is therefore an excellent resource for teachers. The Constitution of South Africa underpins the RNCS and it is therefore vital that pupils are exposed to their heritage and human rights in the field of health care and medicine.

The Museum is a resource which can be used for pupils and teachers alike to embark on an investigation into medical history and its important discoveries. The hundreds of fascinating exhibits on display are of interest not only from a historical point of view, but also demonstrate technological advances in the field of medicine and health care.

Learning to gather and use evidence is a major facet of the new curriculum and by visiting the Museum learners are able to view authentic or replica sources and to interpret evidence. Worksheets, based on evidence located in the Museum displays (primary and

secondary sources), are available for learners from Grade 4 to Grade 7. Incorporated into these worksheets are important skills such as empathy, investigation, analysis, enquiry, classifying, contrasting etc. They are illustrated in such a way as to make them “pupil friendly” interactive and fun! Activities correlate directly with the RNCS and follow the conceptual acquisition of knowledge: cause and effect, chronology and time, change and continuity and similarity and difference. Students are encouraged to create and frame their own questions, to engage in dialogue in order to justify their choices, and to use sources that appeal to them.

In addition, fun activities such as *Developing a time line*, *Who am I?* cards, *disease* cards and cards posing questions to which the answers are available in the Museum, take the learners in an interactive and fun way around the Museum in order to educate in an authentic environment away from textbooks and classroom methodologies.

All activities are based on the principles for teaching Social Sciences as underpinned by the RNCS. They allow the students to engage in co-operative and ‘hands-on’, skills-based learning in an authentic environment away from textbooks and classroom methodologies.

There are also many important epidemics, particularly the conjoined HIV/Aids and tuberculosis pandemic raging in South Africa, of which pupils need to be aware. Through visiting the Museum their knowledge bases of these diseases are extended.

Grades 6 and 7 learners in particular benefit from a visit as the Museum covers specific areas in the RNCS curriculum: History of Medicine in which indigenous medicine, traditional healing and medicine in early Africa, Asia and the Americas is studied. The Museum provides an introduction to medical history and its important discoveries.

A teachers guide is available so that once pupils have completed the visit to the museum they can take the worksheets with them and extend this into the classroom.

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Tours

Tours take place on weekdays and last for approximately 3 hours. An introductory talk on the history of scientific medicine is given. Students are then divided into groups (ideally maximum of 20 per group) and complete worksheets. Museum staff are available to answer questions or provide more information if required.

Videos

Videos on various subjects are available for viewing at the Museum which again support the curricula. These are shown on request.

Assistance with portfolio work

The professional staff of the Museum is available to assist learners with portfolio work. Learners are welcome to use the Museum's library and archives which houses primary and secondary sources of information.

Worksheets available include:

Bloodletting, Dental surgery, Dentistry, Doctor's surgery, Hippocrates, Iron lung, Nose shaper, Object identification, Operation, Optometrist, Pulse, Sangoma.

Work files

Several files containing information about a wide range of subjects were specifically devised to assist students in the classroom. These include: Ancient Egypt, Egyptians, Romans and Greeks, Medieval medicine, Chinese foot-binding; diseases such as influenza, tuberculosis and polio; important people such as Galen, Paré, Marie Curie, Louis Pasteur and Sir Alexander Fleming. A set of rubrics is provided for educators to use if they wish to assess the learners after the visit to the Museum.

Taking cognisance of the need for a visit to the Museum to have a long-term impact, which includes impacts on schoolwork, life-long learning and vocational choices, students and staff members of the Faculty of Health Sciences are frequently requested to address school learners, offering career guidance and advice on subject choice, and are informed of entry requirements to the Faculty and how students are selected.

Although the Museum is well placed to support the school curricula, its educational activities are not limited to the school curriculum.

Health Sciences Students

As a university museum located within the Faculty of Health Sciences, our prime audience is these students. While the teaching of the Faculty concentrates on clinical practice, the Museum offers temporary exhibitions which relate the history of a subject for the students. These exhibitions include *History of malaria*, *History of tuberculosis*, *Asbestos: wonder fibre – serial killer* and *Advances in Cardiology* and *Nine Lives: stories of people living with HIV/AIDS*. These exhibitions directly support the teaching of the Faculty of Health Sciences and are researched and written by experts in the field.

As with school visits, written resources accompany some of these exhibitions, as well as suggestions for further reading and research. The Museum works closely with the lecturers in various courses, who include an examination question relating to the exhibitions, which ensures that they are visited and engaged with by the students.

Future plans

Making exhibitions which are wide-ranging in content, and relevant to contemporary society, is a key to building the broader audiences the modern museum needs, and ought to be serving, in all their diversity.⁹

Museums are social institutions and need to reflect contemporary social issues as instruments for social change. They are increasingly becoming activists in presenting exhibitions which confront visitors with issues facing the societies in which they are located (and beyond). They can be powerful places for social transformation, and, as Stephen Weil suggested: “Museums might play an important role in determining how well or poorly the citizens of a democratic society succeed in governing themselves”¹⁰

In order to make this Museum more socially engaged with relevant contemporary issues, two major exhibitions are being planned: These are *HIV/AIDS* and *Health and health care under apartheid*.

AIDS – Acquired Immunodeficiency Syndrome – is perhaps the greatest medical, social, political and economic challenge facing the world, and especially developing nations, in the 21st century. It is the most urgent public health issue in South Africa today. HIV/AIDS is globally more widespread and in its impact more devastating than the Black Death which, 700 years ago, changed the course of development and history in Europe. Those infected with HIV are blamed and stigmatised.

Considerable material documents and comments on the nature of this impact: academic articles and books, conference proceedings and newsletters, photographs, newspaper accounts, TV reports, and works of art (visual, film and video). Much of this information is accessible in the main only to academics and researchers in the field. Most of the public, including school learners and students in health science faculties, have little knowledge of the history of the disease, its geographical spread and its social and economic consequences.

The aim of the exhibition is to provide a visually and intellectually stimulating account of the HIV/AIDS epidemic by describing the

disease, listing its clinical stages, looking at the history and spread of the disease and at treatment, including nutritional management and alternative therapies. A panel will be devoted to stigmatisation and the contradictory attitudes associated with HIV, and will document the impact of positive role-models.

A further panel will be devoted to innovative bodies of work being done in South Africa, which relate to research policy/research translation which impacts directly on the health of citizens in this country. Visits to the exhibition will be facilitated and mediated and students from the Faculty of Health Sciences and non-governmental organisations will be available to conduct tours of the exhibition. Work sheets and visitor information sheets, prepared by educators, will be available for use in the Museum or for visitors to take home with them. Consideration is being given to developing website resources for on-line work which will include historical information and quizzes for various age groups.

Apartheid impacted on the health of citizens, and on the characteristics of the health care system and its health workers, in numerous ways. There is a wealth of material that documents and comments on the nature of this impact, including articles, books, conference proceedings and newsletters of the progressive health movement, photographs, media accounts, submissions to the Truth and Reconciliation Commission, and works of art. The legacy of apartheid affects our present attempts to fashion a new health system to ensure equality and justice, and many of the ethical issues that confronted health professionals under apartheid, continue to challenge us. However, much of this information remains in a fragmented and dispersed form, accessible only to academics. Most of the public, including students in health science faculties, have little knowledge of the history of health and health care over the past century, and are unable to apply its lessons to our emerging democracy.

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The Museum is planning an exhibition that explores the interplay between apartheid, health and health care, and draws out the implications for the present and the challenges for the future.

In addition to these exhibitions, the Museum is developing a permanent exhibition on the history of the medical school in which it is located, its clinical hospitals, previous students and teachers. Notable academics who have made major contributions to the Faculty and to the advancement of the health sciences will be showcased in individual exhibits and recent awards and accolades to the teaching staff, researchers and students will be profiled on an ongoing basis.



Fig. 1 - Front of the Adler Museum of Medicine showing the original pharmacy c 1905



Fig. 2 - Recreation of an operating theatre in the Johannesburg Hospital c 1900

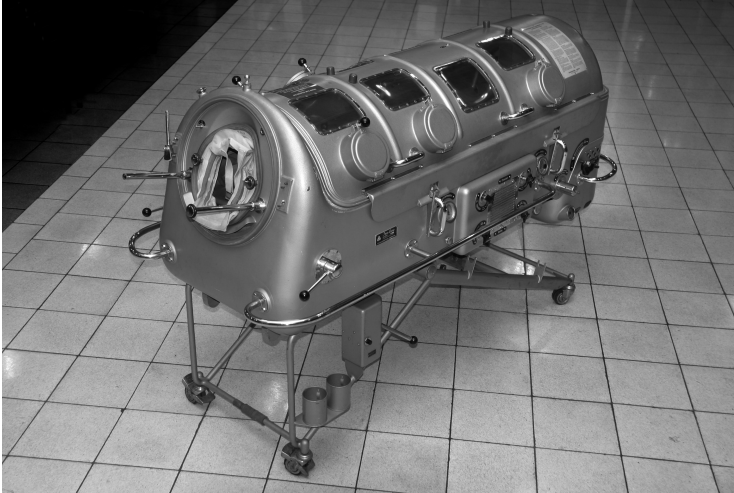


Fig. 3 - One of the Museum's collection of iron lungs used in South Africa during the 1950s poliomyelitis epidemic

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Fig. 4 - Recreation of a dental surgery c1900



Fig. 5 - Bleeding cups c 19th century in the collection of the Adler Museum of Medicine



Fig. 6 - Churchill Madikida was the first artist invited by the Board of Control of the Adler Museum of Medicine to do an installation in the Medical School foyer, using objects from the Johannesburg Hospital and the Adler Museum of Medicine's collection.

The installation, entitled *Status II*, 2006, was the artist's further exploration into the theme of HIV/AIDS on which he has focused for a number of years

The Board of Control of the Adler Museum seeks artworks which are of specific interest to health science students, school learners and the general public in a museum of this nature, tailored around the undergraduate teaching programme of the Faculty. Artists dealing with health and social issues are invited to exhibit their work.

The intentions of this initiative are to: enhance the foyer of Medical School by the installation of appropriate contemporary artworks by South African artists; open the Museum to a much wider audience, thereby increasing the visibility of the Museum and Medical School; enrich the perspectives of medical and other health professions students and to enhance their understanding of contemporary art-making in this country.



Fig. 7 - Sangoma

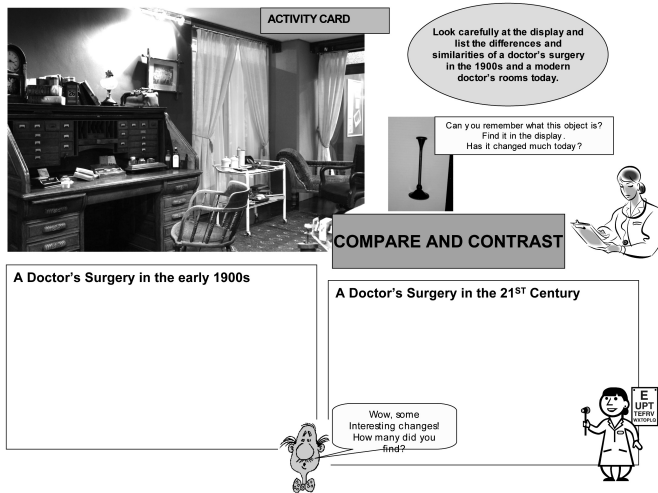


Fig. 8 - Example of a worksheet used during school visits to the Museum

Other educational activities

The *Adler Museum Bulletin* publishes papers in the field of historical research in medical and allied health sciences. It is produced twice a year.

The Museum arranges regular public lectures, including the annual AJ Orenstein Memorial Lecture, tours, film shows, temporary exhibitions on various subjects, and provides excellent facilities for medical historical teaching and research.

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