

*As knowledge becomes more interrelated, the greater the necessity for teaching to take on a multi-disciplinary approach. Consequently, this issue of CDTL Brief examines some experiences of and issues behind **Cross-disciplinary Teaching**.*

Pedagogy in the University Scholars Programme

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Talented students are amongst our most precious resources. To seek out such students, nurture and educate them so as to fully develop their personal, intellectual and leadership potential, NUS launched the University Scholars Programme in July 2000 by combining the Talent Development Programme and the Core Curriculum.

The strategic goal of the Scholars Programme is to prepare the University Scholars for making sterling contributions to the social, political, economic, scientific, technological and institutional development of Singapore, ASEAN, the Asian region, and the world. Intellectual broadening and critical thinking—with a clear understanding of Singapore and of the world in an Asian and international context—are the pillars of the pedagogical philosophy of the Scholars Programme; all efforts at academic training and personal development of the Scholars are focused on attaining these objectives.

The Scholars Programme is open to all the students entering NUS; admission is based solely on merit, with a broad view of what constitutes that extra spark that we are seeking in the Scholars. At present we have an enrolment of almost 800 students in the Scholars Programme from all faculties of NUS, except for the faculties of Dentistry, Law and Medicine.

Rationale

The Scholars Programme is part of the drive of enabling our graduates to face an intensely competitive future by providing them with a world-class undergraduate education at NUS, and is similar to other cutting edge initiatives launched at many institutions the world over. To be prepared for an uncertain future—with changes becoming more frequent and unpredictable—entails being multi-talented, being able to face up to unforeseen and trying circumstances, and having the ability to see beyond textbook solutions. For example, engineers, artists, economists and scientists are being increasingly confronted with ethical, technical, management and organisational issues that are far beyond their specialisations: a manager may need to evaluate a biotechnology project, a scientist may need to understand the economic implications of a scientific discovery. We need to prepare some of our top students to work in the less-structured environment of the future, and with fewer guideposts.

Theoretical Framework

The best preparation for a University Scholar is to have the intellectual breadth, powers of reasoning and critical thinking skills that are necessary ingredients of effective and creative solutions. The inculcation of these qualities—through interactive

pedagogy—is the guiding principle of the University Scholars Programme.

There are two competing tendencies in the present, and on-going, explosion of knowledge. On the one hand, there is a proliferation of discipline-specific methodologies that are rooted in the specificity of knowledge, and that tend to unavoidably compartmentalise and subdivide knowledge and indeed the disciplines themselves. On the other hand, we have increasing trans-disciplinarity. These trends are interlinked, since the higher level of proliferation of specialisations, the higher the need for the integration and synthesis of diverse forms of knowledge, for trans-disciplinarity within and across different areas. Hence in the emerging landscape of knowledge, the specialised and traditional disciplines can be thought of as nodes that are densely linked and interconnected, and form a trans-disciplinary network that constitutes the terrain of human knowledge.

Trans-disciplinarity—which includes inter- and multi-disciplinarity—is an open-ended and all rounded approach to knowledge considered as an interconnected and integral whole. A trans-disciplinary approach utilises and applies all forms of inquiry and methodologies in comprehending many problems—such as giving effective leadership for the development of a society—that can only be posed and solved using a multi-dimensional approach.

The guiding philosophy of the Scholars Programme can be summarised as follows:

1. Intellectual broadening that is based on understanding the underlying interconnectivity of all human knowledge, and in adopting a trans-disciplinary point of view. To achieve optimum intellectual broadening as well as familiarity with a wide range of methodologies, a key feature of the Scholars Programme is an **equal emphasis** on the humanities and social sciences on the one hand and the natural sciences and technology on the other.
2. The Scholars' curriculum emphasises the specific form of reasoning that is inherent in a given body of knowledge. The methodology of acquiring a particular body of knowledge—rather than the content of knowledge per se—is given greater attention than in specialised courses. For example, the University Scholar learns how the biologists' view of the evolution of species differs from that of the sociologists' view of the

evolution of human societies; or what is considered as evidence and fact in linguistics in contrast with what is evidence in physics.

3. The Scholars Programme is designed to instil values and traits necessary for a strong nation. University Scholars study the history of Singapore and the region to develop their awareness of the social, geographical and political contexts of Singapore, and to develop their instincts and reflexes as to what is in the best interest of the nation, even if this means challenging current orthodoxies. This exposure is intended to anchor the identity of the University Scholars in the culture and traditions of Singapore, and yet also enable them to look forward, seeing history's relevance to the present.

Specific Features of Our Pedagogical Process

Openness to innovations is fundamental to our approach to pedagogy, with a special emphasis on imparting trans-disciplinary knowledge. The Scholars Programme also serves as a seedbed for developing new forms of pedagogy that can be applied to NUS as a whole.

The Scholars Programme brings together bright students and capable teachers so as to create and foster a dynamic **learning community**—the mainstay of which are the teachers and students, and indeed non-teaching staff. The learning community extends beyond the Scholars Programme to the rest of NUS, and with national and international scholars, thinkers, scientists, entrepreneurs, inventors, artists and policy-makers being invited to participate.

The integration and synthesis of the various domains of knowledge is a priority in the Scholars modules, and every module explores its connections with other disciplines. Scholars undertake multi-disciplinary projects that help to create intellectual teams and commanders. Trans-disciplinary research amongst faculty members is another unique feature of the Programme.

Scholars take 30% of the total Honours graduation requirement in our Programme, and which consists of first-tier and advanced modules. The first-tier modules are to be taken in the first six semesters, and discipline-specific advanced modules—based in the various participating faculties—are to be completed before graduation.

Advanced Scholars' modules are intended to achieve intellectual broadening across the body of knowledge that is specific to a faculty. Scholars also take charge of their education by undertaking (guided) self-study of advanced specialist topics that reflect their individual interests.

The Scholars take the first-tier modules as fresh entrants, and then go off to their various fields of specialisations. The advanced modules are intended to bring the Scholars back to the Programme—to close the circle so to speak—so that they again experience the Programme, but this time as developed and mature individuals. With the maturing of our Programme, we hope to form a 'Scholars Circle' with new entrants being paired up with the senior Scholars.

Current Status

Every year about 250 students enter into the Scholars Programme. A selection process—based on an essay, an interview and other criteria that go beyond grades—has been evolved and refined over the last few years. A select group of dedicated lecturers, as well as international experts including consultants from Harvard University, have been organised to fulfil the objectives of the Programme, supported by a network of mutual support with all the participating faculties.

Over 40 first-tier and advanced modules are presently being taught in a wide range of subjects. Scholars' first-tier modules are designed for achieving intellectual broadening, and are equally accessible to all students, regardless of the subject they choose to major in. Thus a science student reads modules such as 'Memory and Modernity' and 'Cyberarts' while a literature major reads modules such as 'Physical Laws' and 'Why Calculus'. Advanced modules such as 'Protein Science' span the disciplines of mathematics, physics, chemistry, biology, and 'Civil Society in Singapore' combines literary, historical, political, economic and social perspectives.

The body of knowledge addressed by the Scholars modules aims to be at the confluence of the specialised knowledge of the various faculties, and attempts to lie beyond the domain of knowledge of any given faculty. For example, the module 'Brain and Cognition' is at the intersection of neuroscience, psychology and human behaviour.

An example of the educational experiment in creating a participatory learning community was a semester-long competition to build a robot—a requirement for a module on digital information systems, and which was open to students, teaching and non-teaching staff members of the Scholars Programme.

The University Scholars have organised themselves into the University Scholars Club, and have taken the initiative in organising academic and social functions and activities that directly reflect the issues foremost in their minds. Last year, an overseas trip to Cambodia was undertaken by a group of Scholars, and a trip to Langkawi was an integral part of the module on Evolution.

We have developed an extensive web site with a rich variety of information and interconnections between diverse fields to reflect the pedagogical principles of the Scholars Programme.

The 'Cyberarts Initiative' has been recently launched that brings together artists, scientists, academics and students to innovate and create artistic and scientific products using advanced digital technology. An artist-in-residence scheme has been launched for the integration of the arts with new technologies.

An international conference on 'Moving Text into E-Space' was hosted last year, and focused on the transition of the structure and information contained in a text from print into cyberspace. A workshop on 'Metaphors in Science' is being planned for this year, and will address the increasingly important catalytic role of metaphoric thinking in the emergence of new scientific ideas.

Summary

Trans-disciplinary teaching and research, together with a well thought out plan for social development, are the main pedagogical vehicles of the Scholars Programme—and are intended to bring about an all-rounded development of the University Scholars. ■

When We Read English Articles: The Logocentric Anthropologist & Art Students

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For the last three years, as a part-time lecturer, I have been teaching a year-long course formally titled 'Comparative Ethnology' at the Graduate School, Okinawa Prefectural University of Arts in Okinawa, Japan. Each year, I have 4 to 6 first-year MA students whose majors vary from ethnomusicology to dance to weaving/dyeing to Ryukyuan (Okinawan) classical literature. Most of the students consider themselves artists.

Despite the formal class title, what actually goes on in our class has been largely shaped by a set of institutional expectations placed upon me: as a native Okinawan with a North American university educational background in anthropology, I help my students increase their level of English while introducing the field of anthropology to them. In our class, all the reading assignments are written in English and come from the field of anthropology, while the medium of interaction is Japanese. After one year of experimenting with different subjects, the subjects of the reading materials now revolve around the topics of arts/crafts and anthropology (Phillips & Steiner (1999), *Unpacking Culture: Arts and Commodity in Colonial and Postcolonial Worlds*, is used as our main textbook). Depending upon the student, my class has been regarded as an 'English class', an 'Anthropology class that deals with art/crafts', or both. Thus, this interdisciplinary setting has provided my students and I with an opportunity to re-examine the relationship between anthropology and the arts from a particular point of view, namely the translation of English articles into Japanese.

For the last two decades, art has occupied a special location in anthropology as a subject of study and a realm of inspiration for new theories and new methodologies. While many anthropologists have attempted to crossover and reconfigure the boundary between anthropology and art (e.g. Geertz, 1983; Bourdieu, 1993), the boundary is still too often characterised by anthropology's logocentric nature and art's defiance against such logocentrism.

In my view, anthropology is a logocentric discipline, not so much in that anthropology attempts to be a 'science' in C.P. Snow's sense (1993), but in that our descriptions and explanations of cultures depend upon a particular form of presentation of knowledge and reality: ethnography. Despite our self-criticism and experiments with ethnography, we all ultimately hope our words are capable of representing reality and our understanding of reality for the readers. In contrast, artists use their own art forms to convey what they want to convey, whether they are emotions, feelings, aesthetics or political statements. To artists, words may complement their art but they will never constitute an essential part of their art (hence the popular perception that understanding of art does not require words). As Geertz (1983) describes, "it (art) speaks, as we say, for itself" and "if you have to ask what jazz is you are never going to get to know." In other words, understanding art is an 'experiential' matter.

In our class, this difference between logocentric anthropology and art has manifested in various ways where the subject of arts/crafts is presented and analysed from an anthropological point of view. I ask my students to put arts/crafts, aesthetics and the underlying human desires into certain socio-cultural-historical contexts through anthropological and sociological concepts such as 'habitus' and 'political economy'. I ask them to capture in words the relationship between art and its generative context because this is one way that anthropologists understand art. In doing so, my understanding of art depends upon and trusts the ability of words to directly represent reality.

As my students are very suspicious of such an understanding of art, they are keen on pointing out the violence of anthropological theories and ultimately the logocentric nature of anthropology in dealing with art. For example, a student reacted to my explanation of Bourdieu's take on art by saying, "Yes, we understand how society shapes our desires, aesthetics, and tastes (that underlie the arts), but

this kind of understanding does not necessarily lead to true understanding of art.” For my students, descriptions and explanations of art in words slip away from the essence of art; understanding of art should be experiential. In our class, words and art are thus often seen as having different qualities or existing in different locations of human activities.

However, the fact that my students struggle to understand the reading assignments written in English has gradually led us to see the relationship between words and art in a different light. With their relatively high levels of familiarity with the subjects/topics discussed in the reading assignments, my students are so eager to understand the contents of the reading assignments as accurately and clearly as possible that most of them conduct word-by-word translations from English to Japanese. Unfortunately, they always seem uncomfortable with the outcomes of their translation, even when their translations are, in my opinion, very accurate. They claim that they need ‘something’ other than accurately translated words to feel that they understand the contents of the reading assignments. This ‘something’ seems not to be rooted in their linguistic capacities, but instead located in their very experience of having the meanings of English words ‘click’ after moving back and forth from English to Japanese and back to the original English words. This experience is, of course, made possible by the students’ previous personal experiences and intellectual training. It points to the fact that the power of words alone is not reliable in conveying meanings in this context of translation from one language to another.

With this experience in mind, my students and I have begun to talk about the possibility that words and art have similar qualities and the difference between logocentric anthropology and art can be reconciled. We have begun to see words no longer simply as unions of signifiers and signifieds, transparent vehicles capable of directly representing reality in the Saussurean sense (Saussure, 1959), but rather in terms of the hermeneutic tradition as symbols that are capable of being interpreted differently and capable of representing different realities. More importantly for our class, we have begun to see words as symbols that have to be experienced by individual human beings to create and represent reality (Palmer, 1979; Ricoeur, 1981). In other words, the understanding of words and, by extension, the using of words in description and explanations are indeed experiential matters. In this sense, words are like art. The recognition of words in the

hermeneutics tradition, which was never intended to take place in our class, has enabled the anthropologist to see art in words and the artists to see words in art.

We all know that we have just scratched the surface of the hermeneutics of art and words and we have not been able to develop nor apply the above discussion further. However, we realise what new insights an interdisciplinary class setting like ours can bring to both students and the teacher, as we all have experienced it.

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our next **CDTL Brief**
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‘Instructional
Systems Design’
coming out in
May 2002

Call for Registration

TLHE²⁰⁰² Symposium

2nd Symposium on Teaching and Learning in Higher Education

4–6 September 2002

Theme:

Paradigm Shift in Higher Education

CDTL will be conducting its Second Symposium on Teaching and Learning in Higher Education to increase awareness of pedagogical issues that enhance teaching and learning. The theme is on the changes in learning processes and outcomes caused by the shift from the instruction to the learning paradigm. The official language of the symposium is English. Two pre-symposium workshops will be conducted respectively by Prof Marshall Lih and Prof Barbara Gross Davis on 3 September 2002.

Keynote Speakers:

- Barbara Gross Davis, Asst Vice-Chancellor, Student Life-Educational Development, University of California, Berkeley, USA
- Chong Chi Tat, Deputy President & Provost, Office of the Provost, NUS
- Marshall Lih, Senior Advisor for Engineering Education & International Research Collaboration, National Science Foundation, USA

Invited Speakers:

- Denise Chalmers, University of Queensland, Australia
- Tim Hill, University of Bristol, United Kingdom
- Ora Kwo, University of Hong Kong, Hong Kong
- Gabriele Lakomski, The University of Melbourne, Australia
- Jean Michel, Ecole Nationales des Ponts et Chaussees, France
- Susan C. Piliero, Cornell University, USA
- Malcolm Tight, University of Warwick, United Kingdom
- Peter Jarvis, University of Surrey, United Kingdom

Registration:

The registration fee for the symposium is S\$400 if the payment is made before 1 July 2002, and S\$450 after this date. (Cheques/bank drafts should be made payable to National University of Singapore). The fee will cover a copy of the symposium proceedings, admission to all sessions, lunch and refreshments. The registration fee for each pre-symposium workshop is S\$50.

For more information and/or to register online, please refer to <http://www.cdtl.nus.edu.sg/tlhe> or contact:

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