and the high-stakes decision made on the difference between scores that have no substantive meaning. Another concern is the practice of adding scores without first scaling them to the same mean and standard deviation, a practice that will nullify weights of different components of the university admission system. He also raised the question of using a normal distribution for stringent selection at the right-hand end of the tail, as this may reject applicants who are equally qualified as those accepted for admission, especially in view of Singaporean students' high level of motivation and performance in public examinations.

In conclusion, the author made four suggestions:

1. Small score differences should not be allowed to influence high-stakes decisions. Instead, other information should be used in addition to test scores;
2. Continued research should be undertaken to study the effects and probable biases of feedback and refinement of the test;
3. Workshops on measurement should be conducted for university admissions officers and relevant decision-making bodies; and
4. The public should be educated on the policies and conceptual understanding so that they become informed consumers of test results.

A/P Goh Kim Chuan, School of Arts at NIE, shared his views on the influence of SAT test scores on admission to NIE's BA/BSc programmes, especially in view of the increasing number of polytechnic graduates applying for admission. The test scores will add valuable information about their verbal and mathematical reasoning abilities as a predictor of success in their studies at NIE.

A/P Poh Sui Hoi raised questions about the reliability and validity of the SAT in the Singaporean context, arguing that more research needs to be done on these issues as the test is implemented. Asst. Prof. Guangzhong Luo spoke about the added value of including the SAT in the selection criteria and recommended that a close watch be kept on the combination of the two selection criteria to ensure that the SAT was a useful addition to the university admission process.

The seminar concluded with a Q&A session.

Research Reports

Teaching Practice Discourse and Computer Communications Technology Project

A/P Leslie Sharpe, Asst. Prof. Hu Chun, Asst. Prof. Steven Coombs, A/P Lachlan Crawford, Prof. S. Gopinathan, A/P Moo Swee Ngoh, School of Education

Background

The Teaching Practice Discourse and Computer Communications Technology Project is exploring the use of Multi-Point Desktop Video Conferencing (MDVC) in NIE's practicum. Since 1994 there have been a number of developments at NIE and in the schools that provide a context of needs that MDVC seems well-suited to satisfy. Firstly, NIE has restructured its practicum so as to give schools more responsibility for the school-based component of its initial teacher education programmes. A new post of Senior Coordinating Mentor (SCM) has been created at each school and the role of NIE Supervision
Coordinator (NSC) has been created at NIE. A second development is the introduction of School Clusters. Thirdly, NIE has experienced a large increase in intake and will shortly be relocating to the main NTU campus in Jurong. MDVC has the potential of capitalising on these developments.

Research Focus

The research team is interested in the contribution that MDVC can make to these new practicum arrangements and believes strongly that MDVC can make partnership work more effectively. The interest is twofold: firstly, the use of MDVC in training and supporting the newly appointed SCMs; and secondly, in enhancing the quantity and quality of supervision discourse with student teachers in teaching practice.

Using MDVC in these ways stands to benefit school students by producing better teachers for the schools. Our research aims to explore how MDVC can be utilised to improve the effectiveness of NIE’s preparation of student teachers. MDVC provides a way of linking SCMs and NIE staff together; as well as preservice teaching practice students, cooperating teachers (CTs) and NIE supervisors. It has the potential to increase the quantity and quality of discourse by facilitating a regular and convenient exchange of ideas, experiences and resources.

Research Phases

Exploratory

Over the past year members of the research team have researched available videoconferencing systems, ranging from expensive studio-based systems to relatively inexpensive computer desk-top systems. Expensive systems, for example Mindef’s PictureTel, use multiple ISDN telephone lines and produce excellent results, but their main drawback is cost. Inexpensive desktop systems, for example Microsoft’s NetMeeting, using ordinary telephone lines and the Internet, produce poor video and audio, and are generally unable to support multi-point conferences. They also lack privacy because they operate for the most part in the public domain only. Of the MDVC systems evaluated, the White-Pine CU-SeeMe system, used by NASA and adopted by the Global School House project, is the most promising. When used with ADSL telephone lines and the Singapore ONE broad-band ATM network and ISP gateway, the CU-SeeMe system produces promising results.

A number of trials has been undertaken by the researchers using the CU-SeeMe system. In these trials computers at different locations in Singapore have been linked together using ADSL connections to a private, password protected chat room on a server provided by NCB on Singapore ONE, with the White Pine CU-SeeMe software and licenses provided by International Management Resources (IMR). Most recently NIE took part in a MDVC linkup with the ‘Internet World Asia@Singapore’ exhibition held at Suntec City. These trials have shown that good quality frame rates and audio are possible, providing that participants have the necessary hardware and software, together with adequate technical assistance.

Phase 1 (4 January – 5 February 1999)

This phase involved two schools from School Cluster N2 – Xishan Primary and Jiemin Primary. Seven student teachers and two NIE supervisors were able to hold the first ever MDVC conference with their NIE supervisors in Singapore. We have established a clear need, however, for more technical support than is currently available.

Phase 2 (1 March – 7 May 1999)

The second phase of the study, currently underway, involves a partnership with school clusters N1 and N2, with cluster N1 hosting the Mentor Study and Cluster N2 the Pre-Service Study. The research team will study the use of MDVC in linking together the 9 SCMs in N1 with each other and NIE staff, including the NIE mentor coordinator, who is a member of the research team. The intention
is that the SCMs’ performance of their new roles will be enhanced through the regular sharing of ideas, experiences and resources. The Student Teacher Project involves 24 PCDE (Primary) students posted to schools in Cluster N2. Its aim includes the installation of MDVC hardware and software at the schools and to ensure that it functions reliably; to draw up basic Electronic Social Interaction Protocols (ESIPs) for using MDVC as a vehicle for practicum conferencing; and to collect basic quantitative and qualitative data.

- Educational Testing Division/MOE liaising with NCB, the Cluster School Principals and IMR;
- Schools’ Division/MOE - the good offices of the N1 and N2 Cluster School superintendents and the principals of Xishan and Jiemin schools for supporting the project to date;
- Raffles Girls Secondary School - hosting the first MDVC multi-point conference together with NIE;
- IMR - the provision of free licences for CU-SeeMe Meeting Point server and software, together with loan of computer peripherals and free consultancy;
- Kent Ridge Development Laboratory (KRDL) - free consultancy as part of the NIE Memorandum of Understanding;
- NIE - the provision of two Singapore One Magix accounts and two PCs to KRDL specifications.

Further Developments

There are numerous potential applications of MDVC technology. We anticipate that the project will be continued so as to:

- explore wider practicum applications;
- continue the discourse research;
- extend the use of MDVC as an integral part of NIE’s partnership model for the practicum;
- encourage wider use by the cluster schools to facilitate communication between staff, pupils and parents.

Developing Resilience in Secondary Schools

A/P Rosalind Y. Mau, Dr Lim Tock Keng, Mr Chan Tung Fong, School of Education, and Mr Lee Kok Hong, Ministry of Education

Resilience is a universal capacity which a person uses to minimise or overcome the damaging effects of adversity (Grotberg, 1995). Schools play a role in the development of resilience by identifying early vulnerabilities and creating learning environments to teach students to meet challenges. Previous research has examined