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From the Vice-Chancellor's

Desk

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he focus of this issue of **UNIMAS** Today is appropriate, as we commemorate our first convocation. For our pioneer batch of graduates, this is a not an end, but a significant step in the continuation of the learning process. In keeping with the UNIMAS philosophy that learning is a lifelong commitment, we are confident that we have prepared our graduates to meet the learning challenges inherent in today's ever changing work environment.

Changing technologies and market needs have brought about a rapid transformation of education and the process of training itself. This has increasingly emphasised the capability to undertake continuous and independent learning. Undeniably, individuals, industry and society as a whole benefit when all of us have the capability to be effective in our personal, social and working lives. However, capability in higher education encompasses more than the traditional concern for academic knowledge. Education at this level needs to provide students with the experience of being responsible and accountable for their own learning. Here technology plays an increasingly important role in providing learner control over time, space and pace of learning. This is a



perform multi-task activities and command a wider range of competencies. In other words, today's global graduates must be able to work autonomously through the use of technology within wider and ever more dense information networks. The total development of the individual is a move towards preparing our students for today's competitive work environment.

Developments in technology have accelerated the drive towards learner capability in higher education. Technology has changed learning environments, in particular developments in networking, telecommunications and computer technologies have created new academic ecosystems that impact not only learning but also provide multiple learning options. Telematics is now widely implemented as part of the massification of education philosophy. However, this has necessitated the development of alternative forms of evaluation and emphasised the importance

of negotiation in the learning process. The articles on assessment, learning contracts and problem- based learning address these issues.

The importance of language command and language learning in both the global context and in developing capability is obvious. As access to education becomes more widely available, this issue is pertinent as the education system has to grapple with ways to include rural and other nonmainstream students in the process of socioeconomic development. The systemic genre-based approach to

step towards greater learner autonomy but this does not negate the need for interaction with other learners and teachers.

This need for information is vital especially in today's global economy where the *speed of information exchange* has become so hypersonic that everyone now requires a greater capacity than ever before to function efficiently at a higher level of competency. Graduates today are expected to language learning is a contribution to the debate on providing fresh perspectives on language development.

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Education for Capability thus challenges all of us in higher education to devise and utilise learning experiences to produce the necessary expertise, both the knowledge and skills, to cope in a world of increasingly rapid change.



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## The Capability Concept -

## Its Relevance to Higher Education

This is a summary of the paper presented by John Stephenson at the 'Developing' Capability for the New Asia - Challenges of Education in the 21st Century'

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It is almost a cliché that 'we live in a world of change'. Individual circumstances, of course, vary but there is general agreement about some of the factors which are driving change. These include:

the rapid expansion in the volume of knowledge and available information advances in the techniques for storing and disseminating current information the accelerating rate at which changes are occurring in life generally and in the work-place, through new technology, new applications, new structures and varying social movements

the greater complexity and diversity of the contexts within which we have to operate

the growing interdependence of people with specialist expertise.

To be able to deal with all this, a new outlook towards change is required, in particular, the capability to adapt. But capability does not easily lend itself to detailed definition. It is easier to recognise it than to measure it with any precision. It is an integration of confidence in one's knowledge, skills, self-esteem and values. Capability depends much more on confidence, in particular the effective use and development of skills in complex and changing circumstances, than merely the possession of those skills.

Azlan Hj Ramli

**Cover Photograph** 

Haris Fadzilah Senon

Mohd Yusri Abidin

UNIVERSITI MALAYSIA SARAWAK 94300 Kota Samarahan The following definition of capability, however, has been useful in exploring the essence of capability within academia. Capable people have confidence in their ability to

take effective and appropriate action explain what they are about

live and work effectively with others and

continue to learn from their experiences as individuals and in association with others, in a diverse and changing society.

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Capability is a necessary part of specialist expertise, not separate from it. Capable people not only know about their specialisms; they also have the confidence to apply their knowledge and skills within varied and changing situations and to continue to

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Catch us on the World Wide Web http://www.unimas.my develop their specialist knowledge and skills long after they have left formal education.

Capability is not just about skills and knowledge. Taking effective and appropriate action within unfamiliar and changing circumstances involves judgements, values, the self-confidence to take risks and a commitment to learn from the experience. Involving students in the decisions which directly affect what they learn and how they learn develops a sense of ownership and a high level of motivation.

Many academics find the emphasis on confidence, esteem and personal values important. This is in addition to the knowledge and skills relevant to their perception of an educated person and the role higher education plays. Each of the four 'abilities' is itself an integration of many component skills and qualities, and each 'ability' relates to the others. For instance, one's ability to take appropriate action is related to our specialist expertise which in turn, is enhanced by one's learning from one's experiences of earlier actions taken. Explaining what one is about involves much more than the possession of oral and written communication skills. It requires self-awareness and confidence in one's specialist knowledge and skills, and how these relate to the circumstances at hand.

Capability is developed as much by the way students learn as by what they learn. If students have the experience of being responsible and accountable for their own learning, within a rigorous and interactive environment, they will develop confidence in their ability to take effective and appropriate action, to explain what they are about, to live and work effectively with other people, and to continue to learn from their own experiences. The medium, in other words, is the message.

Capability can be displayed under two circumstances as shown by the diagram that follows.

**Unfamiliar** Context

## X ADAPTABILITY

transfer of skills trying known solutions extending existing knowledge

AUTONOMOUS Z LEARNING exposure autonomy, responsibility networks, peers problem formulation testing solutions courage, risk imagination,



		intuition, creativity
amiliar		Unfamiliar
Problems		Problems
TRAINING reliable delivery	X	ADAPTABILITY transfer of skills
performance standards error elimination technical expertise established procedures ·		trying known solutions extending existing knowledge
	2.00	

## **Familiar Context**

## **Stephenson's Capability Model** Preparing people to be effective in Position Z is important at all levels of education. It is however, of particular

One frequently voiced criticism of higher education made by employers is that graduates are often lacking in a range of personal qualities and skills relevant to the world of work, including specific skills such as writing ability (a criticism often made of scientists and engineers), numeracy (a criticism often made of humanities graduates), and general skills such as personal presentation and oral communication. More substantial criticisms extend to inadequacies in overall personal capabilities often expressed in commonsense terms such as 'having something about them', 'able to get on with things', 'initiative and reliability', 'works well with others' and 'able to cope with anything'.

importance for higher education because our graduates are our future leaders, in work as well as in the community. This will be more likely as the intake into higher education expands and becomes more diversified. The nation needs its future engineers, business executives, architects, social workers, administrators and citizens to be as capable in Position Z as they are in Position Y.

In summary, giving students opportunities to be responsible and accountable for their own learning prepares them for effective performances in their personal and working lives. It enhances their commitment to their studies, promotes deeper understanding, builds confidence in their ability to learn and helps the development of high level personal qualities and skills. In short, capability education is quality education.

Some of the more specific skills can be dealt with through intensive short-course training, minor changes in teaching methods and targeted feedback (e.g. engineering students having their written reports corrected for clarity, grammar and spelling). The overall personal capabilities are of a higher order and require something much more substantial. This is related to the very nature of the students' overall educational experiences. The possession of transferable skills, like the possession of specialist knowledge, is no guarantee that a person will be able to use them effectively. Overall personal capability is an integration of diverse qualities, skills and knowledge.



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# Graduate:

A Gurrigular Framework for the Total Development

## of the Individual

Tuman resource development efforts can no longer be directed only to preparing people for work, for specific Loccupational niches that may be extinct by the time their training is completed. The task of institutions of higher learning is no longer to equip people with time limited skills, but instead, to focus on the fundamental competence and confidence strategies to go on learning and adapting, through the refinement and application of basic knowledge.

Total Development of the Individual (TDI) provides the basis for building a desired graduate profile, one that will prepare the future generation to build Malaysia's vision of becoming a modern nation based upon a society that is infused by strong moral and ethical values, which is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous. This is to be achieved in the context of a civil society in the Malaysian sense, in an economy that is competitive, dynamic, robust, resilient and socially just.

**The Global Graduate** 



The changing world economy has transformed the nature of business; organisations and work. It has brought the development of global companies and organisations which see no national borders in their operations, and will anchor their activities at places where incentives prevail, at locations most appropriate for achieving their objectives. Global companies have a different mind-set. They are shifting away from a geographical to a global context of doing business, from a local focus and contentment, and moving to a global market and greater competition. Instead of being reactive, there is increasing stress on being entrepreneurial and forward looking.

In order to be competitive, global organisations must use technology optimally to achieve a faster turnaround time between design and production. They must also be able to transfer information and knowledge rapidly to dispersed employees, as well as to facilitate communication between staff and customers.

Increasingly therefore, global organisations find that they need people who have other than the core skills. Language skills and a wide sensitivity to different cultures and markets have become increasingly important. Thus, the modern organisation demands a new breed of professionals and managers, those graduates who are global in outlook and attitude.

## The Changing Context of Higher Education

A university education today is no longer solely for the elite. It is a vital element in fulfilling a country's manpower needs. However, the teaching-learning context of higher education is being continually redefined. Education is a means for meeting social and economic needs, for achieving both educational and employment objectives. As the global economy is becoming increasingly technology-focused, the ability to master technology, to master complex systems, and to innovate will increasingly mark the difference between successful and less successful economies.



Thus, the university, which is the nation's supplier of 'knowledge workers', must instil the attitude of the pursuit of knowledge as well as the integration of academic work with real life beyond campus. This can be in the context of teaching-learning, services, or research. This is because new and emerging disciplines cut across traditional boundaries of subjects and fields. Knowledge-learning processes involve more than just simple teaching-learning tasks. They need to encompass knowledge prospecting, acquisition and transfer, mastery and application. The

focusing on knowledge for its own sake. The issue is for graduates to have the capability to apply knowledge and skills with confidence within varied and changing situations. It is the ability of students to think critically, to self discover, to be flexible and adaptable to changing environments that will provide them with the capacity to face the challenges of the future workplace. Hence, the way students learn plays an important role in capability building. Learning strategies include negotiated learning which involves a shift from teaching to learning, and

learner needs to search, to develop learning skills, to think and communicate, to solve problems and to innovate.

Technology has certainly fostered new approaches to teaching-learning. Given that individuals have differing styles and rates of learning, technology offers the opportunity to further facilitate individualised learning. However, in this Internet era, there is a greater need than ever before for information selectivity and organisation. This is not to suggest that technological innovation can help academics to abdicate their teaching function. Certainly the role of teachers will change with greater presence of technology in the classroom. The term 'facilitator' seems to be favoured presently, but what is important is the humanising function of the teacher in the transfer of knowledge and experience. As technology takes over more of the mundane tasks, teachers will be able to take on a more personal role, in aiding the development of learner confidence to enable learners to fulfil the objectives of the capability concept.

collaborative learning which requires students to share tasks which in turn encourages interpersonal communication and the formation of collective purposes. The capability approach also encourages. learner responsibility and accountability to foster motivation and learning effectiveness.

**Curricular Design** To prepare students for capability is a challenge indeed. For UNIMAS the generic development programme provides a compulsory co-curricular menu of electives ranging from sports and culture to social service. All students are required to have some form of industrial or workplace experience. Within means, an international exchange programme is also available.

The TDI Approach to Curricular Design

Core as well as generic programme courses must seek innovative ways of fostering the teaching-learning process. This, in turn, must encourage the assimilation of knowledge, the ability to turn information into knowledge and the capacity for integration, synthesis and reflective judgement as well as ventures in collaborative, negotiated, and problem-solving learning.

The structure of academic programmes is so often dictated by the needs of particular disciplines and by career requirements. TDI, in contrast, aims to take a more holistic approach to individual development. Here the curricular structure and design must be centred on the development of the desired graduate profile - the basis of which is derived from the concept of the individual as an autonomous but co-operative member of society.

The key to individual autonomy is capability. Higher education must involve a broader range of purpose than

Thus, the basic challenge facing any university is to foster academic and interpersonal competence. A university can only be proud if it has succeeded in inculcating skills and attitudes that will enhance the personal and professional outlook of their graduates, and provide them with a competitive edge in the constantly changing market. The TDI approach has provided us with a simple framework in curricular design, that makes the development of positive attributes among students a central priority.

## Extending the

## Academic Ecosystem -

## **The UNIMAS Virtual Campus Project**

Zawawi, Zahran, Zaidah

T Iniversities are essentially dynamic institutions, but change within academia has traditionally been incremental and relatively slow. In recent years, the combined pressures of government and market forces, as

physical campus. This is an emancipation of the educational process from the shackles of the traditional campus.

well as the global borderlines electronic world have prompted transformation within many universities.

As industry requires higher level training and retraining of its work force, there is now a greater demand than ever before for higher education. Learning societies are successful societies. However good one's initial education may be, it must be continuously reinforced by new skills and knowledge, technological and organisational. Otherwise individuals may not remain employable, organisations may not adapt and nations may lose competitiveness.

The massification of higher education means that universities are increasingly being expected to meet new needs and compete for students. One of the challenges of education, then, is to provide wider opportunities and . means for learning - anywhere, anytime, by anyone and

The UNIMAS project aims to demonstrate the viability of setting up a virtual learning environment using innovative information technologies to expand study opportunities for off campus students. Specifically it involves

prototyping a digital library of high quality hypermedia learning resources

developing, enhancing and integrating tools and techniques for authoring, course management, course delivery and communication

incorporating interactive 3-D animated and virtual worlds to enhance the human-technology interaction and educational exchanges

However, a virtual campus is far more than a high-tech innovation. It is no less than a total reformation of the knowledge business, its creation, stewardship, packaging, delivery and application of knowledge. Consequently, it

## concerning anything.

It follows then that universities need to be enlarged and enhanced. They need to move beyond the traditional definition of the physical campus as is now known, and move towards a new perception of what constitutes a learning community. Here the notion of an electronic learning environment or 'ecosystem' is catching on. New delivery systems are called for as traditional methods can no longer cope. Developments in educational and information technologies are helping to make this possible, and should be exploited and pushed to the fullest extent possible. These involve such features as the virtual classrooms, digital libraries, on demand just-in-time education, e-chat groups, MUDs/MOOs, e-workflows, cybercafes etc.

Such developments in digital media integration, computers and communication, as well as new learning paradigms can define a virtual ecosystem which is full of opportunities, that can even enrich the 'real' one. The work of university teachers can be expected to change significantly in this new environment. The classroom of the future will be vastly different from the present.

demands new rules and innovative management in response to new and evolving expectations.

The UNIMAS project began with the formulation of 'learning units' as elements in a framework geared towards flexible curriculum development. Research has been carried out into appropriate supporting technologies such as graphical browsers and dynamic links in second generation hypermedia web servers. Currently a small prototype is in place which supports an automated syllabus evaluator to support flexible course design and another prototype is being incrementally built-up to support course delivery with facilities such as information on course details, c'ectronic hand-in, and synchronous electronic course discussions. The latter is being test-used by oncampus students enrolled in the Faculty of Information Technology programmes and off campus postgraduate students based in Kuala Lumpur.

UNIMAS is already extending the parameters of its campus. The UNIMAS Virtual Campus Project demonstrates the viability of setting up a virtual learning environment using innovative information technologies to expand study opportunities, especially for those independent learners who cannot easily be present on the

Videoconferencing facilities are available but cheaper, desktop alternatives are also being explored. This involves

real-time Internet phone voice communications multi-user application sharing, audio and data sharing whiteboard and clipboard sharing chat functionality

Despite the fact that there are many educational and technology integration issues to resolve, this an unavoidable phase in advancing the frontier of education into the next millennium.

he role of education is to create an environment where individuals will be empowered to integrate their knowledge, skills and personal qualities effectively and appropriately in response to varied, familiar and unfamiliar circumstances. Accordingly, capability may be developed by giving learners greater responsibility for their own learning. It will enable them to explore and explain its relevance to their personal, academic and vocational development. As such, a well balanced education should embrace:

- the acquisition and analysis of knowledge the exercise of creative skills
- the competence to undertake and complete tasks
- the ability to cope with everyday life, and
- the ability to do all the above in cooperation with others

Thus, both independence and interdependence are central to the process of collaboration. Together, these are vital features of the modern work environment, where collaboration and the support of collaborative work through numerous means will continue to evolve. As technology advances - the result of developments in networking, telecommunications and computer technologies - the means of collaboration will continue to change learning environments.

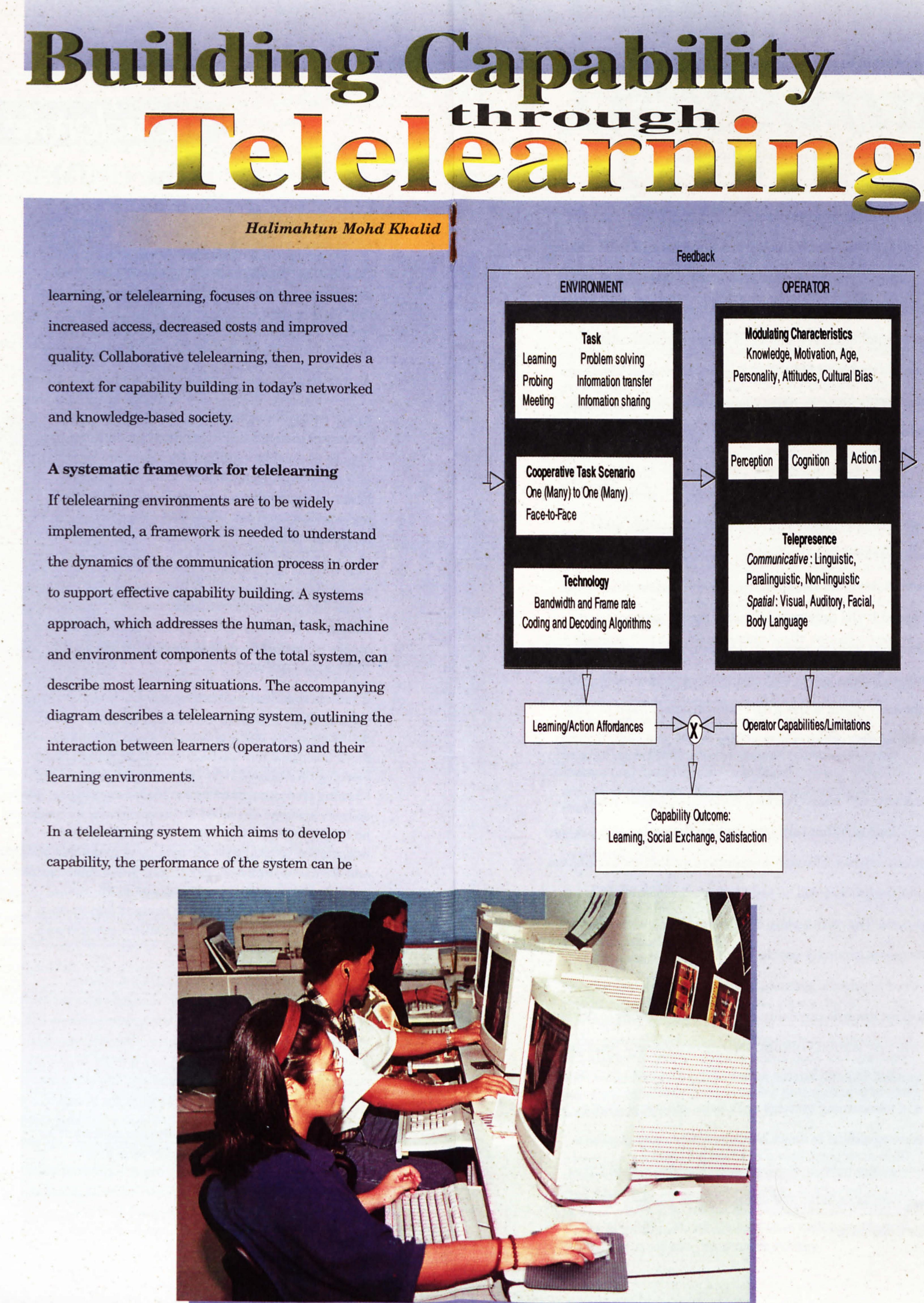
Telematics - the integration of computers and telecommunications technology - is now increasingly being implemented as part of the massification of education. Telematic-based

learning, or telelearning, focuses on three issues: increased access, decreased costs and improved quality. Collaborative telelearning, then, provides a context for capability building in today's networked and knowledge-based society.

## A systematic framework for telelearning

If telelearning environments are to be widely implemented, a framework is needed to understand the dynamics of the communication process in order to support effective capability building. A systems approach, which addresses the human, task, machine and environment components of the total system, can describe most learning situations. The accompanying diagram describes a telelearning system, outlining the interaction between learners (operators) and their learning environments.

In a telelearning system which aims to develop capability, the performance of the system can be



assessed by comparing the features of the learning environment, i.e. learning affordances, with the performance capabilities of the learner. If the affordances are low, then learners will not be able to utilize their skill potentials (for example the spoken word) to enhance the communication process. In this case, the outcome would be a reduction in learning and social exchange. On the other hand, higher affordances would promote better communication and thus creating a more conducive learning environment.

The potential for exploiting interpersonal telecommunication is dependent to a certain extent on bandwidth. But there are other variables, such as motivation, attitude and cultural biases that may affect the learner-environment relationship. Instead of allowing these factors to affect capability development in a significant way, it thus becomes necessary to predict the factors involved in different telelearning scenarios by analysing the variables mentioned above. The telelearning environment can thus be re-designed in order to enhance capability.

There are several design elements which can improve the telelearning environment:

the visual and auditory presentation of information

a thorough consideration of the type of tasks best supported by the technology

the design of workstations to optimise learner posture, comfort and convenience

due regard to organisational factors such as the allocation of responsibility, the competence of the technical personnel, scheduling etc.

Hence, it is important to understand how the limitations imposed by learner perception, cognition and control action can be taken into consideration in the overall design so as to better design telelearning systems that meet optimal performance capability.

## The UNIMAS Telelearning project

Multimedia telelearning over high-speed networks is still in its infancy in Malaysia, although its significance in education is emerging in other countries. The UNIMAS telelearning project is geared towards

## Congratulations to our Pioneer Graduates)

The 9th August 1997 is a momentous occasion for all of us at UNIMAS as we celebrate our inaugural convocation. We extend our congratulations to 122 new

open learners, academics and industry. It is a joint collaboration

between academia and local industries in order to catalyse the local

development of technology and expertise, as well as the transfer of technology between smart partnerships.

Specifically, the project aims to develop a prototype system that showcases in-house multimedia learning materials as well as to demonstrate its performance in supporting open learning, collaborative work and knowledge sharing over broadband networks, such as fast speed ISDN (integrated services digital network) and ATM (asynchronous transfer mode). In addition, the project aims to

graduates from the Faculties of Resource Science and Technology, Social Sciences and Engineering. We are also proud to congratulate 31 post graduates from the Faculties of Resource Science and Technology, Engineering, Information Technology, as well as Cognitive Sciences and Human Resource Development.

document human factors issues that can enhance telepresence, besides identifying the constraints of these networks on compressed MPEG (motion picture experts group) video quality.

The development of self-access learning materials adopts a usercentred design approach that takes the user as the centre of the design and development activity. Through co-operative evaluation techniques, the usability of the product will be tested at every phase of the development cycle. This is to ensure that the product meets user

requirements and is generally usable.

Thus, in the drive towards capability development, we need to prepare learners for the new learning culture which is increasingly becoming technology-centred. Human factors issues in the design and development of telelearning systems need to be addressed so as to support learner capability. In short, there is a need to emphasise a macroergonomics approach in developing telelearning systems that could enhance both knowledge and competence in building the spirit of

Education for Capability.

## TOWARDS AUTONOMOUS Dealine Bunce

C entral to the achievement of *Education for Capability* is the need for all learners to become increasingly responsible for their own learning. Capable lifelong learners should be able to use their evolving repertoire of skills and learning experiences as the basis for new learning challenges. Autonomous student learners will go on to experience a lifetime of professional and personal growth and development. They are also bound to make a significant contribution to the direction of their nation's future.

Learner autonomy refers to the ability of learners to take charge of their own learning, to be responsible for all the decisions concerned with their learning and to follow through with the implementation of those decisions.

Learner autonomy cannot be taught, however; it can only be promoted. It is both a goal and a process in *Education for Capability*.

Learner autonomy should not be equated directly with such terms as self-study, self- access, independent learning or open learning. Autonomy in learning is not synonymous with the removal of the obligation for attendance at class. Equating learner autonomy with self-study is unhelpful in two respects. Firstly, it assumes that learners cannot become autonomous in a classroom situation, and secondly, it assumes that self-study automatically promotes learner One very effective method for fostering learner autonomy is the use of learning contracts. Learning contracts can be varied in their frequency and their scale, so as to fit in with the levels and objectives of all manner of courses. The contract itself is a formal written agreement between a learner and a member of the teaching staff which clearly sets out the details of what is to be learned, the resources and strategies that are available to assist in the learning process, what will be produced as evidence of the learning having occurred and how that product will be assessed. It will also specify a commencement and completion date for the learning activity.



### responsibility.

Self-study via whatever medium, can all too easily become materials-driven and materials-controlled. Self study courses may involve just as much, if not more, "spoon feeding" than face-to-face teaching, where learners at least have an opportunity to guide the discussion. Self-study courses may fail to foster the students' abilities to locate and select materials that they themselves deem to be useful.

Learner autonomy involves a number of valuable constructs such as:

responsibility independence choice negotiation, and self-awareness.

In order to develop autonomy in learning, whether it be in

This is definitely not an unstructured free-for-all. Learning contracts tends to be highly structured - but it is the student who has constructed the framework, in consultation with the teacher. The negotiation process itself can be a powerful learning experience, as students work their way through all the phases of planning their learning project.

While they may be a little time-consuming at first, such powerful experiences provide genuine in-depth learning for the students. Learning contracts can be adapted to cover parts, or the whole, of virtually any training or teaching area. They can be particularly useful for students on work placements, industrial visits, clinical experience and teaching practicums. They are also highly valuable in staff development.

regular classes or beyond, learners need to have opportunities to take responsibility for their own learning. If these experiences are to be learned from, then students will also need opportunities to reflect upon and evaluate such learning activities. In such a process, the teacher's role must expand to encompass the preparation of learners both for and through autonomy.

Learning-to-learn is often seen as a skill to be developed in preparatory courses, rather than a vital component of all courses at all levels. Learning-to-learn involves a great deal more than learning how to study. It also includes the skills of analysis, synthesis and evaluation, as well as the ability to continually reconstruct one's understandings in the light of every new learning experience. By building a negotiated learning element into any course, curriculum planners will demonstrate to students that such professional skills are highly valued. The weighting of assessment that is given to such autonomous learning will further reinforce the rightful place of these professional capabilities in the students' learning priorities.

For further information see: Anderson, G. et. al. (1996). Learning Contracts. Kogan Page: London.

## Problem-Based Learning Medical Education

**Alison Johnston and Syed Hassan Ahmad Almashoor** 



Students in medical school need to acquire Sthe knowledge and skills necessary to solve patients' health problems. A problembased learning (PBL) approach provides students with opportunities to learn through solving the real-life problems that they may encounter in a clinical setting. PBL in medical education uses carefully chosen clinical problems to progressively identify the important concepts of medicine. Even modalities. PBL cases constructed in this way encourage study around a central theme.

Groups of students then work their way through the following learning stages:

### **Stage 1: Setting objectives**

identifying the problem and the key facts related to the problem

calling upon their prior knowledge identifying the key issues setting learning objectives for the group setting individual learning objectives

Stage 2: Searching for information
deciding on an approach to learning

though these problems may appear to be theoretical, they have been found to be highly motivating and very effective in stimulating student learning.

The PBL model begins with a 'trigger', usually written in the form of a brief medical problem. A typical 'trigger' might look like this:

Mr. Raja presents with acute chest pain.

In order to understand this patient's problem and what might be done about it, a number of questions could be asked. What organs might be involved? How is the pain produced? What is the disorder of structure and function? Is this a common problem? Does chest pain have a different significance in different ethnic and age groups? How does someone with chest pain behave? Does it cause a significant loss of days worked? Is it a life-threatening situation? What can be done about it? utilising a variety of sources of information - books, journals, lectures, laboratory exercises, handouts, notes, computer-assisted learning packages, videos, slides, resource people including peers. critically reviewing all this new information integrating this new knowledge with prior knowledge

### **Stage 3: Problem resolution**

synthesising all information relevant to the problem exploring and testing relevant concepts challenging and probing any explanations offered resolving the problem identifying issues for further exploration

All of these stages in the PBL model are critical to the success of the process.

In answering these questions, students will need to delve into the realms of anatomy, physiology, pathology, epidemiology, statistics, health economics, illness behaviour, emergency medicine, pharmacology and other management It has been shown that students who learn medicine in a context that is as close as possible to a clinical setting, grasp and recall medical concepts more easily than they would in traditional classes. The retention of information by students taught using the PBL method has been found to be greater than that of students who have learned via lectures. Students who have learned in a problem-solving style will be better prepared to identify the key elements in a new problem situation.

In the two-year PBL experience of the Faculty of Medical and Health Science at UNIMAS, students have found this method to be challenging and exciting with opportunities to explore, to discover, and be directly responsible for their own learning.



## A Rethinking ASSESSMENT

### **Pauline Bunce**

Today's young professionals require far more than knowledge. University graduates are increasingly being expected to display not only a range of technical skills, but also communication skills, critical thinking skills, problem-solving abilities, a disposition towards teamwork and leadership capabilities.

## If a programme aim to produce graduates who are innovative problem-solvers, then there should be numerous occasions throughout the programme when students are

Secondly, we need to plan as wide a range of appropriate learning experiences as we can. What situations will lead to what kinds of learning? Such experiences will, ideally, reflect real-world situations.

The next, and most important, step is to think of assessment-tasks that will allow students to demonstrate their knowledge, skills and understandings. Can we find assessment tasks which look like the real tasks of the discipline or the profession? Such tasks will have relevance and credibility, as well as having a powerful learning-impact on students.

Indeed such personal skills and attitudes are finding their way into the stated aims and objectives of many university courses.

While the desired outcomes of a university education have been broadened, research into student learning patterns has shown the all-powerful effect of assessment criteria in determining the "real curriculum", as opposed to the stated curriculum. From the students' points-of-view, those aspects of a university course that will be assessed will ultimately dominate their learning. asked to solve problems and to develop innovative solutions. Such activities should feature strongly in assessment. Problem-solving ability cannot merely be inferred from assessments which only test knowledge and technical skills.

If we want students to be reflective about their experiences during industrial training, we must ask them to reflect, and then assess the quality of that reflection. If we want them to be team leaders, we must not only put them into teams, but also assess that leadership. If we want them to be good communicators, we must provide frequent interactive situations in which their communicative competence Finally, what standards of performance should be required? What are the characteristics of successful, satisfactory or poor performance of these tasks? Describe them. These become the assessment criteria.

Thus, we need to break free of the moulds of traditional assessment. We also need to provide far more feedback to students on their progress. Our current practices are often "schoolish" and inwardlooking. We need to look out to the professions and find more assessment tasks that reflect the "real world". It is only through the valuing, i.e. the assessing, of such activities that students will acquire the skills that each task demands.

Tutorials, excursions, group projects, industrial training and laboratory work, if not substantially assessed, will not be considered the "real course" by students, no matter how interesting and enjoyable they may be. It follows that if a university education truly intends to develop a broader range of skills and competencies, it must build them into the assessment profiles of all its courses.

Far too often, assessment practices force students into "surface learning" - rote memorisation and regurgitation of isolated facts - quickly learned and just as quickly forgotten. New kinds of assessment are required if we are to encourage different types of learning. One of these is self-assessment. Administrators and academics may baulk at this concept, but the development of professionals who are self-critical and capable of monitoring their own performances and those of their peers, requires a background and practice in self-evaluations.

is assessed.

How does one assess reflection, leadership and communication? Here lies the challenge. If we do not assess something, it will lack apparent value.

> The starting point is to list the characteristics that we would like to see in graduates of our programmes. What knowledge, what skills and what values would we like to see our students develop?

Education for Capability will have been achieved when employers no longer bemoan the fact that they have to "reeducate" their fresh graduate employees.





Cystemic functional linguistics and its educational Dapplication in the form of genre theory and practice is currently causing quite a storm in a number of places around the world. Particularly in Australia where the approach was largely developed debates have been furious, political and recently, public. In Malaysia, educational applications are relatively unknown; UNIMAS is taking the lead however in exploring their potential and hopefully stirring interest and healthy controversy. It is hoped that our students, as future teachers and educational decision-makers, will be capable of leading debate and informing decision-making in the fields of language, literacy and learning.

So, what is the fuss? What is `systemics'? The contemporary liberal progressivist curriculum has been promoting the

learner-centred classroom, personal creativity and the teacher as learning partner for up to a quarter of a century. However, as the advantages of this pedagogy began to be taken for granted early suspicions that much was also wrong began to surface. The curriculum was not delivering the central outcome of education, literacy, to so many of its charges. (The power of literacy, or perhaps more specifically, the control of powerful literacies should not be underestimated as a major force behind educational success, and social power and mobility.) In the mid-eighties cries began to be heard from parents and conservative politicians and press for a return to the `basics' of the traditional curriculum of the fifties and sixties. That is, a return to a model of transmission-based curriculum, piecemeal language instruction and the pedagogically impotent traditional grammar of many of our school days. And so the debate in its current form began.

Enter `systemics'. Work in the development of genre theory and pedagogical practice had been going on for quite some time. Genre may be described as a culturally motivated process whereby a staged, purposeful *text* is created; genres are culturally evolved ways of getting things done with language which are realised through the lexicogrammar. Educational

systemicists argue that the obsession of the progressivist curriculum with non-interventionist `natural' learning and `authentic' experience, and a barely disguised disdain for the authority of the teacher or textbook, demonstrates a lack of awareness of the social nature of language use, language learning and learning through language, and that progressivist approaches perpetuate educational inequality. The widely recognised general educational failure of fringe, non-mainstream groups in society is to a large extent a result of the incongruence between the `ways with words' of the home and the school, including the ways in which written texts are used, if they are at all. The key to the advantage of certain students is that they have access to, and develop at least some control over, powerful educational genres and the oral and written patterns of language through which these are

realised (e.g. decontextualised language; naming; classifying, describing, hypothesising, abstracting and reacting). Moreover, mainstream children arrive at school with a knowledge of literacies at work - purposes, processes and products as they function in the home and community for everyday purposes. These children are immersed in print-rich environments. Their formal school experiences are largely an extension of their early literacy play at home. Schools are failing those from backgrounds which are different, and then blaming the victim.

Making explicit how language works differently in different contexts for different purposes makes the model particularly relevant to those lacking access to genres of power. The powerful genres of education, and indeed the whole of



technological society, are the factual written genres, such as information report, explanation, and exposition. Whilst these genres and their language technologies are commonly encountered and negotiated in `educated', urban settings, they are not characteristic of the language experience of nonmainstream homes or communities. Nor importantly are they common in literacy classes in schools, where the emphasis tends to be on the reading and writing of narratives and descriptions.

It is not the case that we spontaneously produce different genres that have somehow been forming in our creative psyches. Genres are social processes, learned in social interaction in the recurring events which characterise our cultures, whether these cultures be national, ethnic, class, or

institutional. Many do not learn the culturally valued ways of using language socially and need to be taught explicitly, thus providing ALL students access to their potential power.

Progressivists do not seem to appreciate the essential differences between oral and written language and between learning to speak and learning to write. Their approach assumes that learning to use the written word is essentially the same process as learning to use the spoken word - what they claim is the process of immersion. Writing is, or can be, just speech written down. For systemicists, nothing could be further from reality. Literacy learning, or learning to write in the context of this paper, is not like learning to speak (although in the initial stages it involves very similar processes in some

middle-class, educated, social contexts); and the nature of oral language is fundamentally different from that of written language. While all fit members of our species learn their first language in essence by the age of five or six, not all of us learn to read and write. Even if we were to agree that immersion is sufficient for the first language oral learning experience, it is clearly inappropriate for the learning of literacy. It can be crudely estimated that to equal the number of hours in which children are immersed in oral language for their first five years, they would need about twenty years of classroom time! Furthermore, systemic educationalists question the pedagogy of relatively passive immersion.

In addition, systemic research has shown that different disciplinary knowledge is constructed in different ways (i.e. in different genres and lexicogrammatical choices). Language, it is argued, is central to the learning process, with some genres being necessary for doing certain things in some disciplines and other genres for achieving the purposes of others. Thus subject teachers need to be language teachers. To teach science requires teaching how scientific knowledge is constructed in language; that is, teaching the genres and lexicogrammar of science. Teachers need to lead students to the uncommon sense understandings of the language of different subject areas.

Theories of language are, in the specialised sense of the linguist, called grammars. Systemic functional linguistics has at its core a sophisticated model of language -a grammar, which attempts to explain what language is and how it works. Importantly, this model explicitly relates language to the social and cultural context of which it is an integral part. Developed largely by Michael Halliday the model construes language as a resource for making meaning. Unlike

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Chomsky's transformational grammar therefore, it is based on social meaning, the natural relationship between context and meaning and the realisation of meaning in the lexicogrammar -- the forms and lexicon of language.

Bringing back grammar, in whatever guise it would seem, is seen by progressivists as a retrograde step. Furthermore they accuse genre-based proponents as promoting the enslavement of learners in linguistic straight-jackets and the stifling of creativity. Genre-based theorists and practitioners on the other hand find the romanticism of the idea of nurturing the student's so-called `natural' creativity and the sanctity, and social sterility of `individual authorship' misguided, inequitable and supportive of the status quo. The debates

# tresh perspectives on language and learning

continue, and the outcomes will have profound effects on curriculum renovation and pedagogical practices well into the next century, in ever-expanding contexts. Few in the know believe that the genre-based approach represents a passing fad, or that mountains are being made out of mole-hills.

In Malaysia the debate is especially pertinent as the education system continues to grapple with ways to include rural and other non-mainstream students in the powerful processes of socio-political and economic development. Our education system is boldly, though hesitantly, moving out of a traditionalist mode towards some kind of progressivism. The move seems inevitable, yet for many disorienting and perhaps even culturally inappropriate. Process writing, a progressivist literacy methodology, is gaining widespread recognition in educational literature, training programs and official curriculum guidelines in this country. UNIMAS is currently the only tertiary institution in Malaysia offering an introduction to systemics and its application to TESOL. It is to be hoped that others will urgently take up the challenge and stimulate debate here in order to inform responsible decisionmaking. The aim is to ensure that both teachers and their students are capable of working successfully, confidently and critically, with a wide variety of texts in a wide variety of contexts for various purposes.

UNIMAS students will have the foundation knowledge necessary to pursue further studies in any of these areas of applied linguistics. In education, the potential exists for the transformation of current language, literacy and learning practices to better guarantee the capabilities of teachers and students to cope with the technologies of texts as they operate in both familiar and new social contexts.

Conference and Seminar Announcement

We welcome Faculty of Medicine and Health Sciences Dr Donald Henry Wortmann Alison Margaret Johnston Dr Pan Kok Long Dr Martin Goh Huat Seng

Faculty of Cognitive Sciences and Human Development Jeanine Carlson Wortmann Seminar on Technology-Assisted Teaching and Learning in Universities

in association with UNIMAS and The Association of Southeast Asean Institutions of Higher Learning (ASAIHL) 11 - 12 August 1997

## **Course Design Using Interactive Multimedia for Distance Learning Workshop**

in association with the Centre for Open Learning, UNIMAS. 13 - 15 August 1997

Further Information Prof Murtedza Mohammad e-mail: ted@cttc.unimas.my fax: ++6082 672303

Sharifah Zurina Wan Noruddin

Faculty of Information Technology Sharaf El deen Sami Md Haroni Yuosef Mohd Ahmad Kilani

Faculty of Applied and Creative Art Bruce Alan Dehnert Kulvinder Kaur Dhew

> Faculty of Resource Science and Technology Dr Eswaran Padmanabhan

Faculty of Social Sciences Rozita Abd Manap Azizan Morshidi National Conference-Workshop on Industrial Relations in Malaysia: Present and Future Challenges 3 - 4 November 1997

This conference seeks to provide a common meeting ground by which key representatives from academia, government, employers and workers can raise and address contemporary issues in industrial relations in Malaysia. Its specific objectives are to :

- · assess the state of industrial and labour relations in Malaysia
- identify contemporary issues and problems
- formulate a research agenda for industrial and labour relations
- assess and recommend improvements in the teaching of industrial relations
- initiate the organisation of a network of academics, scholars and practitioners together with other interested parties in the field of industrial relations.

Faculty of Engineering Rosita ak Jubang Ghazali Tambi Azhaili Baharun

Faculty of Economics and Business Noor Raihan Ab Hamid

Mahani Mohd Abdu Shakur

Centre for Student Development Dr Soe Soe Nwe

> Centre for Language and Communication Studies Asnah Amat Mokito

> > We congratulate

Further information Conference Secretariat Faculty of Social Sciences UNIMAS 94300 Kota Samarahan, Sarawak, MALAYSIA e-mail: ara@fss.unimas.my fax:++6082 672305

ASEAN Ergonomics 97 Conference co-organised by SEAES Ergonomics Society, IEA Ergonomic Association and UNIMAS 6 - 8 November 1997 Further Information IDEA URC:http//www.asean 97.unimas.my email:asean 97@unimas.my fax:++6082 572094

**International Conference on Computers in Education (ICCE)** 2 - 6 December 1997

**Prof Madya Dr Jamali Ismail** on his appointment as Deputy Dean Centre for Language and Communication Studies

Dr Awang Iskanderdzulkarnein Pgn Rayari on his appointment as Deputy Dean Centre for Student Development

> Dr Hamsawi Sani on his appointment as Deputy Dean Faculty of Resource Science and Technology

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This conference is a forum for innovative responses to the challenges of technology-enhanced education for the 21st century, especially for the Asia-Pacific region. ICCE is concerned with the current state of the art, and serves as a reference for future research as well as the real-world deployment of educational technologies.

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