

SHORT-TERM VOCATIONAL HIGHER EDUCATION

Challenges and opportunities in the context of technological change and globalization

International conférence, Paris, France

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June 6th 2005

A. Compared Visions

Chaired by Eloi BAMBARA, General Secretary, Higher Education Ministry, Burkina Faso

I. The Role of STVHE in Developing Countries: World Bank Perspective

Jamil SALMI, Human Development Network, World Bank

I would like to present a vision of how tertiary education might look in the future. A new student beginning his or her studies will be greeted by a robot receptionist, will go online to bid for a scholarship on e-Bay, and will receive a laptop, a Blackberry and an iPod to help them during their studies. The student will follow a personalised course and will attend several institutions as they study towards a single degree. If they graduate on time, the student will receive a reward of USD 500 and if they do not find a proper job, the institute will reimburse the cost of their degree. Their degree will be valid for only five years. Most classes will be conducted online and interactive intelligent 'tutors' will adjust the course according to the student's learning rhythm. There will be no physical libraries or labs. The public institution will receive only 10% of its budget from the state.

This institute of the future might seem like a dream or a nightmare but the fact is that it is not a vision of the future: all of these examples already exist. We must consider whether our tertiary non-university institutions are ready to face these challenges. In order to answer this question, we must establish the role which we expect these institutions to play and highlight the issues which we face in running and developing them.

1. The Role of Non-University Professional Institutions

These institutions provide opportunities for diverse student populations, a sharper focus on student needs, closer links with employers and, therefore, better employment prospects.

a. Student Diversity

As student populations become more diverse, they are better served by non-university institutions. Young people aspiring to early access to the labour market are not necessarily willing to spend years following a traditional university education. In some countries, these institutions also serve a transitional and remedial function for students who require additional training prior to entering university. They also offer lifelong learning opportunities for adults, whether these are individuals who went straight into employment on leaving school or employees who need to be retrained. The lifelong learning vision now incorporates the full demographic spectrum.

b. Focus on Student Needs

The flexibility which these institutions offer in terms of time and structure is beneficial to those with special needs and allows working students to access education at their own rhythm. Lower direct costs and shorter courses result in a lower opportunity cost for students who are obliged to limit their working time while they attend.

These institutions are also better at focusing on the learning needs of students. Small classes rather than huge lecture halls mean more students are given more individual attention; traditional universities sometimes make research a higher priority than teaching and focus on the students who are likely to progress to post-doctoral research.

In many cases, non-university institutes can be laboratories for pedagogical innovation. For example, in the United States and Canada, courses at community colleges are often sub-contracted to private institutions which are specialized in the subject in question.

c. Links with Employers

One of the defining characteristics of non-university institutions is the fact that they are career-oriented and offer an excellent mix of theoretical and practical training. Frequently, private sector experts are represented on the governing board or active on the curriculum committee. Many teaching staff have practical experience in the relevant sector, are attuned to the needs of the labour market and interested in the progress made by their students after graduation. This combination of factors usually results in much better employment prospects.

It is interesting to note that, during the economic crisis in eastern Asia in the late nineties, the people who were dismissed tended to be those who had graduated from traditional universities rather than those who had followed more vocational courses. In countries like Korea and Singapore there has been a shift among students away from traditional universities and towards polytechnics. Employers tend to recognize the high value of the degrees offered by these institutions and graduates benefit from the greater job security they provide. Recent studies in Malaysia confirm that graduates of non-university institutions have better employment prospects than graduates from traditional universities.

These institutions also provide a number of benefits to the State. There is a much lower cost involved in setting up such institutions compared to the costs of founding a new university; the fact that they function at a regional level allows funding costs to be shared with local authorities or businesses; and their regional orientation means that they can function with a smaller catchment population, they contribute to local economic life, and they help to limit migration from rural areas by offering opportunities for post-school study within local communities.

It should be remembered that not all of these opportunities are realized in developing countries.

2. Challenges

a. Competition from New Providers

If we consider the progress in tertiary education over the last ten years, it is clear that new providers are emerging who are capable of competing with non-university institutions and universities.

One of the most active education providers in the US is the University of Maryland. Today, anyone who has an internet connection can access education wherever they are. This means that local institutions, whether universities or non-universities, have to compete with online institutions. The University of Phoenix, a for-profit private university in the United States, is one of the fastest-

growing universities in the world today: in the last five years their enrolment has grown from 70 000 to 250 000. They target working people who are over 21 and offer them part-time courses which combine on-site and long-distance training. Professors at the University of Phoenix are paid, in part, on the basis of the employment records of their graduates.

In addition to this long-distance competition, franchised universities operated from the UK, America, Canada and Australia are setting up campuses in developing countries and Eastern Europe and competing with local institutions. Corporate universities are also developing and media companies, libraries and museums are also promoting education. In Brazil, a network of technically-oriented secondary schools has been set up in partnership with the University of Phoenix. Small, web-based consulting funds are also trying to match the supply and demand of tertiary education institutions.

b. The Quality Challenge

If an institution offers quality and is relevant, it will not suffer from these non-traditional challenges. However, for this to be the case, the programs must be relevant and excellent, and the institution must have qualified teachers and students, the right infrastructure and teaching resources, and the right teachers. Unfortunately, this is not always the case.

Generally, university professors have high prestige but this does not apply to teachers in other non-university institutions. It is important that full recognition be given to the professionals who teach in these institutions. Even though work remains to be done in this respect, the insistence that teachers at technical institutions be given full recognition is one of the reasons for Tunisia's success in this field. In order to attract highly-qualified people, it is necessary to provide them with appropriate status and remuneration.

We should also face the fact that students who choose to attend non-university institutions are not always academically gifted. The challenge is to find out whether students are attending vocational colleges only because they have no other choice and to identify the impact which this has on their motivation and their ability to complete their studies. Low progression and completion rates are a major issue for many non-university institutions: in some US community colleges, 40% of students do not finish their course.

c. Articulation with the Rest of the Tertiary Education System

The question of articulation with other aspects of the tertiary education system must also be considered. A natural transition from community colleges and institutes of technology to the university system can be facilitated by giving appropriate accreditation and recognition to qualifications earned in non-university systems. Many countries, including France, the UK and Korea have made significant progress in recognizing knowledge and skills acquired in the workplace or through informal training. An ongoing project in Chile into the development of technical education has promoted articulation between technical institutions and universities. Korea's Credit Bank, which is strongly supported by the government, helps students attain a degree by recognizing and rewarding the knowledge they have acquired in different institutions.

It should be remembered that breaking down the barriers between universities and further education institutions promotes the risk of academic drift. There is a danger that teachers in non-university institutions who participate in research projects will question why they do not receive the same salary as a university lecturer, as has been seen in the UK, Australia, Samoa and Egypt.

d. Recognition

The question of recognition is also important. Although countries exist where non-university institutions are successful and receive full recognition, in many cases, the lack of high-quality students, teachers and equipment mean that the training offered is poorly perceived by employers and society at large. These are serious problems.

3. Conclusions

In conclusion, it is clear that, in many countries, the landscape of traditional tertiary education has changed and become much more diversified. This can be viewed either as a very positive sign or a representing a danger that a lack of quality, relevance and funding will see them degenerate into second-rate institutions.

II. STVHE: The European Union Perspective

Guy HAUG, Policy Developer, European Commission, Directorate-General for Education and Culture

I shall provide an unofficial viewpoint of how the European Union believes short-term vocational higher education contributes to the overall education sector within Europe.

1. Diversity in Europe

This sector is very heterogeneous within Europe, firstly because while some countries offer short-term higher education others do not, and secondly because huge differences exist between the countries that do. There are differences in institutions, in status, and even in definitions. In some countries short-term education is considered as tertiary education, whereas in others it is seen as post-secondary. In some European countries this sector is marginal, but in others the non-university sector represents the majority of students. In some countries the sector is strongly oriented towards the labour market, and in others it is seen as a stepping stone towards further study. There is also extreme diversity in the way in which short-term vocational studies are related to bachelor-level degrees. In some countries they are treated as a step towards a degree whereas in others it is seen as a simple certificate or diploma.

2. Definition of Short Term Vocational Higher Education

Short-term vocational education is not one of the two pillars in a binary system: it is neither university nor non-university education. In reality it constitutes one part of the non-university higher education system. This negative definition, whereby short-term higher education can only be named as something it is not, suggests that there is work to be done as far as the sector's image is concerned.

The lack of definition of this sector poses a significant problem within the European Union. We have already heard several definitions of this part of the education sector: short-term vocational education, non-university education, and short-term technical vocational education, for example. This multitude of names illustrates the difficulty we have in identifying how this sector differs from any other. If we cannot identify the sector, it is difficult to know how to approach it.

This problem is exacerbated by the increasingly widespread merging process. Many short-term vocational institutions are merging to create regional clusters, or are merging into universities in

order to offer vocational qualifications within university environments. This lack of visibility might be the sector's greatest weakness.

3. The STVHE Sector and the Bologna Process

This sector is vital for the labor market, to broaden access to further education, and to provide education to non-traditional learners. It is also essential for encouraging vertical mobility. The traditional pan-European program, Erasmus, offers horizontal mobility. Students take modules in different countries, and slot them into their single degree. Short-term education, on the other hand, offers a way of climbing the degree ladder. It must be considered whether these economic and social functions are compatible, and can be served by a single sector.

This sector was, initially, seen by the European Higher Education Area as the least convergent of the higher education systems engaged with the Bologna process. Short-term vocational higher education is not mentioned in any of the Bologna communiqués prior to 2003. Yet, efforts have been made since 1999 to ensure that the degree structure in Europe is not limited to the “degree, masters, doctorate” trio.

Bologna does not speak about ‘degrees’ but about ‘qualifications’. This makes integrating short-term higher education an easier task, because in many countries this type of education is seen not as a degree, but as a certificate or diploma.

Short-term vocational higher education now has a place in the European Higher Education Area. Finding that place involved a two-stage process. The first stage consisted of including the college and polytechnic sector in the Bologna process. In Salamanca, two years after the Bologna declaration, universities stated that the Bologna process would be open to all types of higher education. Then, in Prague, EURASHE, the college and polytechnic representative body, was admitted as a full member in the follow-up group to the Bologna process. This opened the way for further developments; for example those underway have to do with quality assurance in engineering. One of the conditions of tender for those who wish to offer this accreditation scheme at European level is that they must cover all engineering education, including non-university education for technicians and the like.

A declaration on professional higher education was sent by polytechnics and colleges to ministers at Bergen. Short-term professional education was not mentioned. The inclusion of short-term vocational higher education happened in 2003, when the first communiqué of ministers within the Bologna process referred to short-term higher education and the link between further education and first degrees. The Bergen Communiqué states that a top priority is the creation of a European qualification framework in higher education that includes doctorates, masters, bachelors degrees, and a fourth level of short-term vocational higher education. This level is not necessarily a step towards a first degree but seen as an end in itself. This is not, however, the end of the process to achieve proper recognition for this sector.

4. Future Priorities

The sector needs a name, a number of common denominators and to organize itself as a group. At present, there is no single representative body at the European level. The future of this sector depends on increasing its political, social and educational visibility.

Secondly, the sector must build bridges from short-term vocational higher education to further studies. In many countries, there is a tendency to believe that sending people straight on to work rather than on to further studies is the best way to retain the cohesiveness of the sector. This is a

mistake. Students are not attracted by an educational cul-de-sac: they want an available route towards further studies.

Short-term vocational education is behind the majority of the educational sector when it comes to building up mobility and internationalisation. The international dimension has become essential on the labour market, and must be encouraged. We have experience advertising the European Higher Education Area at the doctorate and masters levels. The post-secondary higher education sector is largely ignored, but this is world class in Europe and should be advertised as such.

At the European level, the top priority in the next two years should be to consolidate the place of short-term vocational education within the European Qualification Framework. Immediate steps towards this goal might include applying the ECTS credit system to short-term vocational higher education, and offering a diploma supplement. Convergence should be fostered in areas such as course definition, nomenclature and credit ranges. It should be relatively easy to say that a certificate is notionally 60 ECTS credit points, a diploma is 120 and a bachelor degree is never less than 180. A number of steps could be taken relatively easily and rapidly provided that a dialogue exists between the various countries and sectors involved in short-term vocational higher education in Europe.

Finally, there is a need to set up quality assurance mechanisms. Having worked in this area I am absolutely convinced that the quality assurance systems which are in place to serve traditional universities do not and cannot meet the needs of short-term vocational higher education. This sector needs its own standards and guidelines which should be controlled through direct input from the sector itself. Two possibilities are a network of quality assurance agencies dealing specifically with this sector, or a European-level agency.

Two years remain to prepare for the London 2007 meeting. It is vital that the short-term vocational higher education sector deliver a message to ministers ahead of that meeting. The European Quality Framework is being developed on the basis of European Union recommendations; this sector needs to be involved. The short-term vocational education sector needs to consolidate its position over time.

III. STVHE: Perspective of the Firm

Maurice PINKUS, Director of IUMM Training, Medef, France

I shall discuss how a French entrepreneur working in the steel industry, a limited sector with around 2 million employees, sees the issues of non-university education and discuss how it should be maintained and developed. The sector generates wealth and enables us to export. Whatever evolution occurs towards a tertiary society, we shall still need technicians and engineers, and those people will still have to be trained.

1. Recruitment Needs

Companies usually recruit at three levels: operational, managerial, and, between those, technical. Those employees will have a good general education, but will also have acquired technical skills. They will jump straight into on-site work. In France, the professional bachelor's degree has given rise to some new managerial positions. These entry points require qualifications, and employees can progress once they have worked on-site for a number of years.

Most companies lack visibility. They have to work within a changing environment and be proactive and flexible in terms of skills and customer interaction. This includes long-term industries such as the aerospace industry, which despite their high order levels has limited mid-term

visibility. We conduct prospective surveys which show that much is related to the age pyramid and growing concern about the renewal of the working population. Most of those concerns relate to qualified operators in sectors such as the automotive and aerospace industries.

The three levels of recruitment, operational, managerial and technical, make short-term vocational higher education necessary. In France, when a technician is recruited, Bac+2 or Bac+3 is usually added to the advertisement. This shows that we are looking for a general level of education but we also require experience within the sector. Short-term vocational degrees, DUTs, already exist in France. They are popular with companies because they combine practical and theoretical training and can be implemented within joint agreements between companies and educational institutions. After Bac+2 level additional training is always possible, and it tends to focus on the acquisition of specialized skills. Providing these training courses are combined with realistic projects, they enable easier integration into the workplace.

2. Firms' expectations

Educational streams should be chosen by the student based on personal research, reflections and expectations. Vocational training sessions should be implemented with company support in order to avoid the implementation of poorly targeted training which is not relevant to companies' needs.

Professional bachelors was set up in France in line with the Bologna process, in order to create a vocational bachelor's degree. It was created in order to provide specific vocational skills to young students lacking those skills, and to facilitate access to university. This is unfortunately no longer the case. Students who have already acquired short-term vocational degrees are now joining the professional bachelors program.

We now discuss continuing or even continuous education. This type of degree is limited, and once again we are investing our resources in initial training in the traditional sector.

With regard to training sessions and training degrees, we are fortunate in France to have universities that are open to professionalisation. However, this is not the case in every country. It would be a mistake to allow universities a monopoly on all types of training. The diversity of institutions in France is a strength; it allows flexibility and customisation, in particular towards the younger learning population.

General education degrees are still very gender biased, with women going to the tertiary sector and men to the industrial sector. Companies are seeking gender equity; this requires equal training. In order to implement training properly, we must recruit students who have come to this curriculum through choice and not through a lack of options.

3. Future Priorities

There was talk in France at one time of creating technological training, but this is not the answer. Instead, we must improve the professional bachelors offer and move from the professional to the general in order to achieve a higher education degree. A difficulty in pursuing this course is that, in France, greater recognition tends to go to the more academic fields of study, leaving professional training with the more academically-limited students. This bad habit should be dropped. Traditional academic training does not produce better citizens; skills and knowledge concerning the economy and social sciences are also provided by vocational training. However, if we are to promote short-term vocational education, we must provide employment opportunities. I believe this kind of training should create closer ties with both business and traditional higher education. Dialogue and partnerships should be created in order to find ways of implementing and monitoring these types of training and to offer greater job opportunities to young people.

In order to assess a professional or vocational education, training must be focused on employment and research realities. Successful projects are underway in several countries. These projects should not be limited to the business world, but should aim to develop realistic and efficient orientation processes, and partnerships for all sorts of training. Not all young people want to go through higher education before entering the labour market. We should encourage self-development through continuing education.

With regard to the international professional environment, these projects are committed to higher degrees and the implementation of training sessions, without trying to impose the French model. Based on French experience however, we should be able to help foreign professional organizations to set up structures in their respective countries in order to develop these sectors.

IV. Question and Answer Session

Mr KANTE, National School of Engineering, Bamako, Mali

My questions are for the representatives of the World Bank and the EU. The speakers have made clear that Europe is facing similar issues as those faced by Africa. For a long time our education system was based on secondary education but it is now clear that we must consider the whole chain. UNESCO has discussed future perspectives: I would like to know the opinion of the World Bank regarding the launch of higher education, and of short-term higher education in particular, in our countries. Do UNESCO and the World Bank have a coherent position? Do these two institutions have a harmonised approach regarding both short-term and long-term vocational higher education?

Georges HADDAD, Director of the Division of Higher Education, UNESCO

I would like to turn to Guy HAUG's comments on quality assessment. UNESCO and the OECD have launched an operation called Guidelines: Provision for Quality in Higher Education. There has been a lack of provision of quality assurance for technological and vocational training. We must work with the OECD and the World Bank. When I meet Jamil SALMI in Washington next week, I hope to be able to discuss the opportunity to launch high quality technological and vocational quality across borders.

Secondly, when companies turn to higher education institutions, they should be able to anticipate the future needs of their sectors. As President of Paris 1, I chaired the conference of university presidents. At the time we launched a dialogue to try to work together in order to define future needs. I realized how difficult it was to work with entrepreneurs who refused to commit to their future needs in terms of professional and vocational qualifications. I would like to know how we could improve this relationship in order to develop adapted, adequate and relevant training.

Time is required to implement new curricula. This is one of the major challenges for our partners.

Roger EYCHENNE, Deputy President of Vocational Training, IEU, P Sabatier University, Toulouse

I would like to ask all the speakers whether the discontinuity between the university and non-academic sectors is really relevant. The French model includes many bridges between different sectors, in contrast to the claims of the previous presentation. Are we insisting on the split between academic and non-academic?

Beriwan KHAILANY, Deputy Minister for Higher Education and Scientific Research, Iraq

Many interesting things have already been mentioned. Firstly, how can we develop the relationship between the World Bank and the CIEP as it relates to academics, institutes and training in Iraq? There are nine technical colleges and twenty-seven institutes in the country. We give bachelors degrees and diplomas but we require help in assessing the level of training given to graduates and accrediting their knowledge. We also require help in developing the curriculum and involving staff in training courses. For the last two years, we have been working very hard, and UNESCO has been helping us, but a great deal more is required. The security situation in Iraq is extremely difficult and, although we are making some progress, we need assistance. We would ask you to consider Iraq as a priority for future programs.

Eloi BAMBARA, Chair

I would appreciate it if all questioners could limit themselves to two minutes.

Hernan ARANEDA, Director, Labour Competences Programme, Fundación Chile, Chile

Firstly, Guy HAUG, you pointed out that short-term higher education should have its own quality criteria. Could you provide indications about what you think those criteria might be? Secondly, in my own country, there is no enthusiasm within the higher education sector to provide information on the labour market outcomes for graduates, something I consider essential for a transparent market. What progress is being made worldwide in this area?

Sam W. MIKHAIL, Dean, Centennial College, Toronto, Canada

Firstly, I believe that 'short-term' is inappropriate terminology because our institutions offer programs from one to four years. Secondly, I believe that we need to identify the role of these institutions in terms of reverse mobility. Our institutions often act as a finishing school for graduates who received a broad general education in arts or sciences but want a focused training before they enter the labour market.

Abdallahi KANE, Head of Higher Technological Education and Scientific Research, Department of National Education, Mauritania

Firstly, Jamil SALMI, are the academic institutions you mentioned private or public? Are they universities or secondary institutions? What is the recruitment level, what kind of degrees do they offer, and how are they funded?

Secondly, in my country companies are often unstructured. Although we do work with companies within the vocational education field, this is still difficult. To what extent are French businesses involved in higher vocational education, and what kind of training is on offer in France?

Ahmedou OULD HAOUBA, National School of Engineering, Mauritania

Thank you for having highlighted some very important issues in terms of harmonisation and quality assurance, and the need to build bridges between sectors. We need to create places where dialogue is possible as success without the involvement of the business world is impossible. This problem is particularly visible in our country.

I would like to broach the subject of ICTs. In terms of scientific vocational higher education, ICTs will not happen immediately, but their role is essential if the quality of teaching at the professional level is to be improved. Companies must take a greater role; we must mobilise them in order to gain their support and sponsorship.

Mokhtar ANNAKI, Director of Higher Education, Morocco

After a long period of reforms, I believe it is essential that we consider human resources. In most countries a national or regional policy exists and most of the speakers have demonstrated a consistent approach. Notwithstanding improvements and reforms, drift can occur. For a professor, research and publication are what is important; there is no leverage in this field. Professors are not interested in first degree, primary or secondary education.

Seventy percent of students leave the sector after receiving their initial education; I would welcome the opportunity to compare this figure, and the psychology it implies, with other countries.

We began reform in my country believing that we would obtain a good result but we also need convinced and motivated human resources. For that we need a convincing approach to training. The World Bank and UNESCO can act as vital driving forces. If there is a relatively global, if not uniform, approach then we should be able to learn from one another effectively.

Fortunat RAMAHATANDRINA, Director General, Higher Institute of Technology of Antsiranana, Madagascar

The World Bank came to Madagascar recently, and gave a presentation on higher vocational education at the tertiary level. The reaction of the university professors present was heated. They feared that the World Bank wanted to kill universities. Do any countries, or the World Bank, have any successful stories to relate concerning the implementation of this sub sector?

Mohamed ELSAID, Director of Egyptian Technical Colleges Project, Ministry for Higher Education, Egypt

We understand that this is a very important sector if we are to produce technicians with the skills required by the labor market. I do not believe that this sector aims to kill universities or make trouble for professors. We believe that our country requires graduates both from university and from this kind of institution. Our very ambitious program is financed in part by the World Bank. We will continue to develop this important sector.

André GAURON, Former President, High Committee for Education, Economy and Employment, France

Jamil SALMI, if we imagine that the system you describe is what the future has in store for us, what will be the prerequisites for students to access training? What is the most efficient way to access online training? Could the system you described simply result in difficulties being moved upstream or does it imply an in-depth change in higher education? The current European system follows the school year but with this system, the school year would no longer be relevant. We could expect to see a differentiation in the level of training across nations.

Eloi BAMBARA

We will now give our speakers the opportunity to answer these questions. Speakers will address the questions of greatest relevance to them.

Maurice PINKUS

I shall answer the questions about business needs and the participation of businesses in professional training. University degrees provide basic initial training, but this must be developed using ongoing education in order to provide employees with the skills they will need throughout their professional lives. In terms of needs definition, there are no fundamental needs which apply to the business world. In the medium term, businesses must be able to recruit people who have 'qualifying' training. Short-term needs are met by the ongoing training market and businesses are able more clearly to define their needs here.

Human resources professionals and interfaces differ according to the time scale involved. Different professional organizations participate in the definition of degrees; they have educational mock-ups for national degrees such as BTS or DUT. Professional organizations also take part in the definition of training needs.

Companies also participate in the development of training sessions and apprenticeships in order to strengthen links between the education sector and professional organizations. In terms of short-term vocational higher education, business should participate in funding training. For instance, 25% of teaching content for the Professional Bachelors should be provided by business.

Guy HAUG

'Short-term' and 'non-university' are inappropriate terms; it is also true that the length of training varies. We must find a positive name for this part of the education sector.

Several questions related to the position of this sector within the educational chain. We should not develop a rigid sector which is isolated from and does not relate to other institutions. I support the creation of a professional segment covering all levels of education, including professional doctorates.

Regarding credits, we must ensure that credit definition remains relevant at every level. This matter is currently being discussed in the European Union. The European Credit Transfer System, which was developed for the university sector, must be considered alongside European credits for vocational training. A conference dedicated to the implementation of this is currently being arranged.

With regard to quality assurance, a list of criteria is essential, and should be created following a dialogue between agencies. The criteria should be specific to this sector and to this educational level. We should take into account the quality of the dialogue with the entrepreneurial sector and the labour market. We should try to understand the diversity of the population who take advantage of this type of education. There is no immediate answer to the questions we are posing here, but we should establish a dialogue in order to find answers.

Finally, regarding the warning given about human resources, short-term vocational higher education develops better and provides better socio-economic results if it is not included in the general higher education system. We have tried to duplicate the French IUTs without according them the same level of autonomy within universities: the result was that they were lost, overtaken by majority academic values and an orientation towards research.

Jamil SALMI

For many years, the World Bank has been accused of being against higher education. We do not wish to destroy higher education, we do not want to kill the universities, nor do we want them to be privatised. We believe that an education system should be viewed as a continuous process from kindergarten to post-higher, continuous education. Post-secondary education should be more specialised. After apartheid in South Africa, a report was produced called 'The Size and Shape of the Higher Education System'.

In some countries the enrolment rate is as low as 3-5%. If those countries wish to pass quickly to a 15% enrolment rate, they will not succeed simply by building universities and setting up research programs. We need to create a well-balanced system which combines research universities with training institutions providing two, three and four year vocational programs. Iraq has the opportunity to reconfigure its system without having to overcome the fixed mentalities which prevail when systems have been in place for years.

We should not give up our traditional training methods simply in order to adopt new technologies. However, in many countries, teaching involves a single teacher reading his lesson to hundreds of students. This is no better than what could be done online. For example, in Brazil, medical students work from a CD-Rom at their own pace and take the exam when they are ready. They are not required to attend lectures for a whole year, if they can pass the exam in a shorter time.

I recommend a visit to Carnegie University in Pittsburgh, USA, which has a virtual chemistry laboratory. The costs of the materials, products and equipment can be avoided if experiments can be done in this way. In Bangladesh there is a crucial issue around the presence of arsenic in the water. This real, specific issue could be solved online without spending money on university equipment. The imaginative use of information technology can provide incredible skill savings. Our ministers should consider infrastructure, telecommunications, and innovative ways of delivering education.

Regarding the public or private nature of education; in most countries institutions are public, but not in all. Jordan has one of the most advanced college systems in the Middle East, with both public and private colleges.

To answer the question from Chile: universities are often reluctant to consider labour market outcomes, but technical institutes tend to be more focused on these issues. The project that we are supporting with the Chilean government is funding the establishment of a labour market observatory, which will consider labour outcomes from all kinds of institutions.

B. “Employment” and “Social Demand” in Higher Education: Socio-Political Analyses, Strategic Choices and Political Management

Chaired by Mohamed ELSAID, Director of Egyptian Technical Colleges Project, Ministry of Higher Education, Egypt

I. Employment and Social Demand: Conflicting Objectives?

Stephan GEIFES, General Secretary, Franco-German University, Germany

I would like to thank CIEP for inviting me to talk to you in general about German experiences in short-term vocational education, and in particular about the dichotomy between social demand and the labour market. It is not easy for a German to make a presentation on these issues, mainly because Germany is known for its long-term higher education studies and its limited vocational studies. The average age for Germans to leave higher education is around 29, a figure which continues to rise. The issues around short-term higher education are an urgent concern in Germany. The LMD Reform was inspired by the need to shorten the length of study and reduce the number of students who were dropping out before gaining a degree.

I would like to give you some of my background. I am the newly appointed General Secretary of the Franco-German University, which was established five years ago. It is a decentralised institution which aims to reinforce cooperation between French and German universities by structuring programs including a network of 120 double degrees. The Franco-German University organizes around one-third of exchanges that take place between Germany and France.

1. Vocational Higher Education in Germany

German education focuses on long-term structured degrees. In 2004, 23% of Germans were achieving their bachelor degree; an increase from 10% in 1970. The number of higher education graduates is around 23% whereas the average for OECD countries is 30%. This is because German training systems do not depend purely on higher education but mix school and professional education, and 35% of young people are trained this way. There are some professions which in other countries depend on higher education but do not do so in Germany. German nurses, for example, do not go through higher education. The German system is characterized, therefore, by a high proportion of long-term studies, and of apprenticeships.

Short-term higher education in Germany often relates to applied sciences, and as such is covered by fachhochschulen (universities of applied sciences). These institutions were created in the 1970s with the aim of providing more young graduates with training. The fachhochschulen provide all short-term vocational higher education programs and are characterized by their professionalism. This is evidenced by the fact that they only recruit teachers who have a PhD but have worked either in the business world or for the state. These institutions work in the same way as those of other countries. At present, 70% of German students are registered with a university, and 30% with a fachhochschule. This is a small but significant proportion of the student population.

In terms of the Bologna process, the fachhochschulen face a paradox. Although graduates have no trouble being integrated into the labour market, their education is seen by the general public as second class. The state is aware of this problem.

2. The Future of Short-term Higher Education in Germany

There is some political will to shorten the average length of studies in Germany. Education belongs to the Lander field of action, which are coordinated by the KMK. The KMK agrees only on the fact that bachelor degrees should be the target for most students, after which most should enter the labor market.

Students in fachhochschulen study for 4 years. The schools wish to gain recognition for their degrees at the same level as those offered by traditional universities.

Most fachhochschulen students do not stop after the initial three years: 15% join the labour market and most of the rest stay in education, 75% in the same school. One reason for this continuation is that their degree is not yet validated, and so they are forced to continue. Students who go on to study for a masters degree usually do so directly after finishing their bachelor degree. Studies show that bachelors are really appreciated by the business world and that graduates of fachhochschulen are able to compete against graduates from traditional universities.

The business world not only wants graduates with these types of qualifications, but is betting on them. The government, however, wants students to go to university. If the government does not encourage this type of degree, they will continue to be difficult to systematize. Although the German system differs from those of other countries, SVHE issues are acute indeed.

II. Academic and Professional Streams: A Difficult Balance

William EXPERTON, Lead Education Specialist, World Bank

I would like to consider how we can encourage the diversification of higher education worldwide. This is a key issue for most governments.

In trying to answer this question I thought I would look at the existing system and so, like any economic expert, I looked at the figures. I realized firstly that not many figures are available, and secondly that those which we do have are not very consistent.

Academic studies and vocational studies do not enjoy an easy coexistence, and in most countries a harmonious rapport between vocational and academic institutions does not exist. Countries that are beginning to diversify their sectors should be aware of these conflicts. Diversification began in the United States in the 1950s, continued in Europe in the 1960s, and reached Korea in 1979. Other countries followed suit, including Mexico, Brazil, and Tunisia in 1991.

1. The Diversification of Higher Education

When diversification started there was some momentum, and shared visions of coherent systems of higher education. Some countries created new institutions. However, when one looks more closely, it becomes clear that diversification came about through the progressive adaptation of existing systems. In Korea, for example, the earliest institutions were secondary educational institutions that were changed into tertiary education institutions. There are many similar examples.

Surprisingly, despite the success of initiatives to create a higher education network and despite the successes of graduates in entering the job market, there is still, even fifty years after their inception, a lack of recognition for these institutions.

All of these short-term vocational education institutions face questions of legitimacy in the field of higher education. For this reason, the British have chosen to rename their polytechnics 'universities'. In Britain as in most countries the university sector is much older and more powerful than the non-university sector.

2. The Place of Vocational Higher Education

In France, and in many other countries, vocational education is a very recent phenomenon which corresponds to two developments. Firstly, the democratization of higher education and secondly the diversification of businesses and the development of small and medium sized enterprises seeking specific skills on the labor market.

Part of the lack of recognition for vocational education reflects the fact that national statistics frequently fail to include vocational further education, and short-term vocational further education in particular. Vocational institutions are seen as somehow inferior to universities. If we are not counted, we do not exist. The public too is guilty of failing to recognize these institutions, but it is an understandable guilt. If parents do not see recognition for these institutions in official papers, why would they want their children to be enrolled?

We have a great responsibility to make this type of training more visible. Beyond the institutionalized part of the short-term vocational education sector there is a raft of training opportunities that never make it onto the official lists. Last year, we undertook a study in Brazil in order to list tertiary level educational systems; we discovered that they accounted for 50% of higher education in that state. That meant that all of the providers of private further education were providing vocational education for people straight out of secondary school in order to allow them to enter the job market. It was so major that we called it the invisible sector. Nevertheless, parents were aware that if their children were going to be able to find a job in the same region, they would need to be trained in information technology.

3. Factors that Promote the Diversification of Higher Education

The diversification of higher education also reflects an increased demand for this kind of training from the business environment. Logically, the more higher education systems are developed, the more they are diversified. However, studying the figures shows that there is no correlation between the two. There are highly developed countries with strongly diversified education markets, and, surprisingly, less developed countries with even more diversified markets. The diversification of further education depends on political will as much as on *laissez faire*, which responds to emerging needs in the market.

During the last five years we have also seen that, in general, the development of non-university professional training has occurred at the same rate as the development of university education. In the 1960s, 1970s and 1980s there was very significant diversification but thereafter, in most countries, the two branches developed at a similar rate.

In Italy, Spain, Greece and China, the two branches have developed simultaneously. In many other countries, the higher universities have developed at a faster pace than those covering professional qualifications. There are several reasons for this difference: Tunisia, for example, chose to diversify its further education with the clear objective of reaching a higher education rate of 25% by 2006. This is clearly a result of political will. In other cases, this phenomenon has arisen due to evolutions within the institutions themselves, as has occurred in France. There are no clear reasons why vocational training should develop at a quicker pace than traditional universities; on the contrary, universities are part of an existing system and usually have access to the necessary factors

for rapid development. Costs are another factor. Professional training tends to require more equipment and teaching staff, but on the other hand vocational diplomas are usually cheaper for the student.

Many African countries are now committed to diversification. Now that these countries are starting to enlarge their economies, the need for diversification is becoming clear. The greatest challenge for African countries is that there are fewer non-university institutions than there are universities, making debate more difficult. The possibilities for funding are significantly lower than those of Western Europe or even Latin America. Basic education is the focus for many, resulting in the underdevelopment of the vocational education market. Professionalisation and diversification will be driven not by the market but by legislation.

This morning we talked about translating socio-economic demand into a shared vision. Actors of change tend to listen to unions and businesses that represent existing institutions; traditional universities are, therefore, better placed to be heard.

In this context countries should act along five lines:

- **translate socio-economic demands into a shared vision:** This cannot and will not happen if new players, such as entrepreneurs, students and their families, and private sector institutions, are not introduced into the dialogue.
- **implement regulations for professional teachers:** This is a population which is very diversified. The teaching profession must be given a greater opportunity for career development, greater recognition, and a clear vision. Tunisia has successfully created a specific status for teachers, which helps attract and retain professionals.
- **ensure the recognition and equivalence of diplomas.** It must be decided whether a diploma is simply recognition that a course has been followed or whether it is a certificate of competence. If it is to be considered as a certificate of competence, this competence must be validated by an external agency.
- **allow flexible management and funding:** If flexibility is not granted, managing institutions, students, and equipment will prove difficult.
- **encourage the participation of the private sector.** The private sector should be able to part fund vocational education institutions, an involvement which would be useful in terms of recognition and accreditation.

Mohamed ELSAID

Thank you for those good and useful statistics. Mr. EXPERTON has raised a very important question: why is the short-term vocational higher education system seen as less valuable than the traditional university sector? I believe that the perception that vocational education is good for everybody except one's own child persists in most developing countries.

III. Political and Social Management of Student Flows

Christian FORESTIER, Chief Inspector of Schools and President of the Centre of Studies and Research on Qualifications (CEREQ), France

The Bologna process is being rapidly implemented in Europe, yet I am one of those who think there is a real risk of destabilization of systems existing beyond the "Licence" in France. Furthermore it is certainly strange that the organizers of this Conference have asked a Frenchman to speak about

the political and social management of student flows, when such a management has never been practiced in France! Rather than managing or steering, France has rather accepted, in my view, a policy of a “dead dog floating on water”.

1. The French Landscape

France presents a special case, both in terms of numbers and in terms of the place of STVHE in higher education at large. There are two diplomas in France: the BTS, or skilled technician degree, and the DUT, which is the university technical diploma, delivered by the *Instituts universitaires de technologie (IUT)*. Some 150 000 of these are granted per year, 90,000 of which lead straight to the labor market (57,000 in services and 36,000 in the industrial sector); the others pursue their studies to the *Licence* level or beyond, or are already employed. Thus 20% of a generation has a 3B level degree, which is quite exceptional in the world; and those students that graduate represent the largest student outflow in French higher education

Here is a summary of student outflows from French higher education: the percentage of students exiting the system:

○ Without a degree other than the <i>Baccalauréat</i> (High School Diploma).....	12%
○ With a <i>Bac + 2</i> degree in the health sciences.....	3%
○ With a <i>DEUG</i> (1 st cycle of university).....	3%
○ With a <i>BTS or DUT</i> in services.....	7%
○ With a <i>BTS or DUT</i> in the industrial sector.....	5%
○ With a degree greater than or equal to the <i>Licence</i>	19%
Total.....	49%

Based on the breakdown of entrants into professional life by educational level, two important observations can be made:

- The number of students leaving the higher education system after failure (i.e. no degree) is equal to the number of graduates with a *BTS* or *DUT* (12%);
- The number of graduates with *Bac+2* is similar to that with *Bac+3* and more (18% and 19%).

From these observations one is led to ask whether the coexistence of these two diplomas (*BTS* and *IUT*) is necessary. It would be an illusion to believe that this coexistence is the result of a political will, when in fact it results from the absence of such. When the IUTs were created in 1966, the Ministry of Education had planned to phase out the BTS, created some years earlier. This policy of BTS closings only lasted a few years (less than five), then was interrupted, then reversed since starting with the 1985 decentralization laws, more BTS systems were opened than IUTs. Today the number of BTS diplomas is double that of DUTs, all of this because the State was incapable of adopting a position of strength consisting of making the DUT the only higher education diploma of level 3B delivered by a university. The State therefore has allowed two very distinct systems welcome holders of the same *Baccalaureat*. Holders of the technological *Baccalaureat* are in a majority in the BTS, but this is not the case, far from it, in the IUTs, especially in the tertiary sector where they are in a clear minority compared with holders of the general *Baccalaureat*. And what does the labor market tell us? Apparently there are few differences in the conditions of access to employment (time to enter first job, earnings) between the two diplomas, as most differences lie

between secondary and tertiary sectors, rather than between BTS and DUT. Furthermore we can say today that first time job seekers holding a BTS or DUT are the best off, with an unemployment rate 3 years after graduation of 7-9%, compared to 16% on average for graduates of the higher education system as a whole).

However if differences are small at the time of first entry into the labor market, they are greater when it comes to the pursuit of studies. The number of DUT pursuing their education beyond the short term 3B level is at least twice that of BTS holders doing the same.

2. The Evolution of Short-term Education in the European Context

The pursuit of studies by BTS and DUT holders raises the question of their insertion in the Bologna process, and of their articulation with the LMD. All of this in the context of a framework law that posits an objective, ten years from now, of allowing 50% of an age group to obtain a higher education degree. It is clear that this goal can be reached in one of three ways:

-either we maintain the current internal efficiency of our higher education system, which means that to graduate 50% of a generation we must have 66% of our youth enter higher education, i.e. obtain the *Baccalaureat*;

-or we eliminate all the dropouts from the system, i.e. 12% of a cohort;

-or we do both – the second strategy being more “correct”.

If one considers that the principal causes of student dropouts in higher education lie in the inadequacies between course offerings and the various types of *Baccalaureat*, we have to forcefully re-state the problem of the welcome of technological *Baccalaureate* graduates in short term higher education.

As long as our country does not impose that general Bac holders enter long term training streams (3A) and technological Bac holders enter short term ones (3B), we will continue to have high dropout rates due primarily to the “forced” entry of technological Bac holders into long term streams. We should take the opportunity of the LMD implementation to tackle this problem, knowing full well that if a significant difference appears between BTS and DUTs with respect to access to the L level, technological Bac holders will be tempted to desert the BTS stream to enter the IUTs, from which they will be rejected, and will go back to long term streams where they will fail. A sad forecast indeed!

IV. Question and Answer Session

André GAURON, *Conseiller maître à la cour des comptes*, Former President, High Committee for Education, Economy and Employment, France

I would like to mention an issue which we have not yet covered this afternoon, namely that of demand from businesses compared to demand from families, both students and parents, for higher education. If I have understood correctly there are three levels of entry into a business, the middle one of which is technician level, at Bac+2 or 3. The level of insertion decided by the company is important here, rather than the level of training. For businesses, regardless of prospects,

progression is limited, and training is usually under-rewarded, underpaid, rather than overpaid. For parents the reverse is true, and the longer education is continued the better.

There are two solutions: that in Germany, where 23% of students go on to further their education, and the dual system. The lack of a headcount management system results in parents continuing to want higher education for their children, and more people entering the higher education system than is necessary for or required by the labour market. Will we, then, face in the future a social crisis whereby parental and student expectation regarding job opportunities cannot be matched by the market?

Djona AVOKSOUMA, Minister for Higher Education and Vocational Training, Chad

I would like to comment on Mr FORESTIER's conclusion, that the educational system should allow people to choose between short studies and long academic careers. If such a system were to be developed, those who wish to enter the short-term system might be prevented from extending their studies. Statistics show that students who have completed a short-term degree are better prepared for longer studies.

Regarding William EXPERTON's presentation and the issue of legitimacy for short-term studies, I would question whether business is being given too much power to dictate current and future employment needs, and therefore the development of the sector.

Sam MIKHAIL, Dean, Centennial College, Toronto, Canada

I suggest that we move away from short-cycle versus long-cycle and non-university versus university because the comparison between this sector and universities is a pointless one. Universities have been established for centuries against only decades for vocational education. I believe that all sectors should offer long- and short-cycle programs, and that lifelong education and transfers between institutions should be standard. The Californian model shows how colleges, polytechnics and research universities can be combined, with opportunities for transition between the different institutions.

From the Floor

Christian FORESTIER's comments highlight the fact that there is a major financial loss associated with short-cycle training. The Canadian CEGEP system, which acts as a preparation for university or professional training, allows people to make a more informed choice about whether they will indeed go on to university or will instead follow vocational training. I think that if we have to recommend something, we should study this proposal in depth.

From the Floor

My question is for Christian FORESTIER. I think that you suggested that vocational training in France is not driven by the business world. Professionalisation is very topical today and is seen as meeting economic development needs. If this training is not driven by the market and at the same time suffers from a lack of political direction, I would question how it succeeds.

Secondly, Mr FORESTIER mentioned a duality between higher education and vocational training. In my view, it is possible for vocational training to exist within higher education just as academic training can do so. However, there is need to establish a strategy which makes it clear why vocational training is important. We should identify why vocational training is valuable and the

concrete needs it meets, which are not met by traditional education. Are concerns identical worldwide?

José Ignacio LOPEZ SORIA, Regional Director, OEI, Peru

I would like to add something to the difficulties of short and long cycles, of the labour market and of legitimacy, and discuss the situation in Peru. We benefit from cost-free cooperation programs with different countries, such as France, Germany and Spain. Of course, these programs have their own, specific issues. Each cooperation program comes with its own methodology. In Peru we have dual training, but because we also have a cooperation program with Germany, the system is slightly distorted.

Abdallahi KANE, Head of Higher Technological Education and Scientific Research, Department of National Education, Mauritania

I am in charge of a technical training institution that covers only short-term education, and which has many exchanges with the business world. Regarding Mr EXPERTON's presentation, I would like to insist on two of the issues he raised. The key for diversification and development is motivated teaching staff and a flexible financing system. In our case, our procedures are administratively cumbersome. In Mauritania the need for short vocational higher education is very acute due to the country's stage of development. Exploitation by company bosses and the lack of human resources make short-term vocational education a matter of urgency. We must be able to diversify the types of training required by companies.

Moussa KANTE, Director General, National School of Engineering, Bamako, Mali

This kind of forum allows us both to share our experiences and to find solutions to the problems we face. There are many branches in the tertiary sector dealing with short-term higher education. The private sector provides training for bureaucrats; industrial training is usually not a matter of concern for partners.

We must establish a strategy which allows us to create incentives for developing short-term training. Malian statistics show that the tertiary sector represents 75% of private sector programs, but technical and industrial training courses are not of interest to businesses.

Mali has a technical baccalaureate, which includes some of the content of the classical scientific baccalaureate alongside technical courses. Students who follow this course are obliged to train for two years before entering engineering school and cannot choose to follow a shorter course.

The university sector in Mali is underdeveloped. Since we were pushed into the university sector in 1996, we have experienced many problems.

Beriwan KHAILANY, Deputy Minister for Higher Education and Scientific Research, Iraq

I have questions concerning the way German and French students are accepted into vocational education. In Iraq, we have centralized admissions to universities and vocational education on the basis of high school grades. We have vocational high schools and normal high schools. Students from vocational schools are obliged to follow vocational further education. On what basis are students in other countries accepted for vocational studies? Our vocational graduates never find jobs; are there any recommendations for promoting employment among graduates of vocational colleges?

Philippe PIERROT, President, Assembly of IUT Directors, France

My question is for Christian FORESTIER. Could the general ranking which is carried out be fine-tuned according to the nature of the vocational training in question? Could this be linked to upstream orientation in high school? The introduction of professional bachelor degrees is not yet complete; there is still much work to be done. We must also consider technological training in terms of the upward mobility it promotes.

Eloi BAMBARA, General Secretary, Ministry of Secondary and Higher Education and Research, Burkina Faso

Given the importance of the statistically invisible institutions mentioned in Brazil, what is the attitude of the financial partners towards this phenomenon? How do they feel about the fact that these institutions are not reflected in the statistics? How can this situation be justified? Should students at these institutions be counted as unemployed, seeing as their studies are not recognized? I cannot understand the German paradox, which sets a lack of political support for educational institutions against the desire to fight unemployment.

Stephan GEIFES

The French and German systems are very different, but it is important to consider how both systems can be adapted. It is interesting to note that BTS and IUTs are recognized at the fachhochschulen in Germany. We should explore this avenue.

Secondly, Christian FORESTIER mentioned the dogma in France that university cycles should never be shorter than three years. There is a section in the Bergen communiqué which mentions this, and which triggered a lot of emotion in Germany. I believe that the system is changing and that the debate will continue.

In answer to the question from Beriwan KHAILANY there is no orientation or selection system for German students, whether for universities or fachhochschulen; students choose where they wish to go. In terms of integration results, there are few problems with labour market integration for vocational graduates, in contrast with university graduates. However, this is linked to the courses that are provided by the system.

Christian FORESTIER

A speaker was wondering whether poor management of student flows could lead to a social crisis. That is possible. France, Germany and other countries have systems that allow free access to higher education, even if processes are more or less rigid depending on education streams. I don't see why this system should be questioned, quite the contrary given the forecast deficit of graduates. In the case of France, it appears that the number of young people enrolled in higher education is insufficient since, as I've mentioned, only 38% of youth in the same age cohort graduate with a higher education degree, not always in the "appropriate" streams.

With respect to unemployment, I'd like to respond with a quote from a dialogue by Michel Audiard, who had Jean Gabin say, in the film *The President*, "there are bosses who lean (politically) toward the left, and there are fish that fly, but neither represent their species!" In this respect I would like to say that graduates do not represent the unemployed, even if there exists graduate unemployment.

This situation leads us to foresee an adjustment, as I mentioned in my presentation. The question remains however on whether we could, or should, organize this adjustment. Should we, on the

contrary,; consider that all Bac holders are alike and that therefore we should open all training streams to all, from the most to the least elite ones, or should we put in place more rigid mechanisms? I am not in a position to answer these questions; I don't think that France could afford a policy of selection or quotas, therefore political adjustments will do.

It is possible to imagine solutions that would be easy to implement. In France, higher education financing is based on number of students and education streams. Thus training in mechanics is not funded as that in psychology. When I was director of higher education, I had suggested to the minister that the quality of the Bac holder be taken into account, i.e. that more funding be given to less gifted students, and vice versa. However this simple solution was rejected. I personally regret that it was not tested, as I think it would have brought conclusive results. Having said this, I fully agree that my story line is extremely general.

In response to a speaker who underlined the weight of tertiary training streams compared to those in industry, I would like to indicate that this phenomenon (over-representation of tertiary and services sector with respect to secondary) is found in every country. The problem we must face does not lie at the higher education level, but at the secondary education one. It is clear in France that it is at the secondary level that the situation becomes out of control., for lack of wilful adjustment.

To conclude, I would like to stress that I was present at the Sorbonne when we all enthusiastically decided on the 3/5/8 formula, but it is clear that this is an approach endogenous to the university and that it has not been borne out by the labor market. I now think that if we had chosen the 2/4/7 formula our economies would not have been unduly perturbed. However we would have realised economies, et our systems would have been more stable.

William EXPERTON

Our basic problem is flow regulation. When we regulate flows, we are regulating society and the positioning of individuals within social hierarchies. The issues we have touched upon this afternoon are core issues.

Secondly, we have mentioned funding, whether a lack of funds or the kind of funding problem which is occurring in France. The issue is clearly around determining who should regulate and fund higher education. This is a far from a perfect market; indeed, it is mediocre. In countries where access to education is free, there is no way of assessing cost. In certain countries there is only a single university, which creates problems of monopoly and also hinders diversification.

Imperfect information is sometimes disseminated. The statistics presented by Christian FORESTIER were research statistics. We need to investigate the integration of graduates into the job market but statistics on that are almost never published. Statistics usually relate to enrolment rates rather than to graduation or employment levels.

Even when education is notionally free, there are always costs associated with studying. Parents support their children through their studies, and in many countries students are obliged to work in order to fund their education. These hidden costs never appear in the statistics.

Faced with such an imperfect system the State should ensure that it does not amplify the existing weaknesses of the system, and should instead focus on trying to correct them. I would not argue in favour of charging higher education at its true cost but changes must be considered in order to address the malfunctions inherent in the system. There are other options. For instance, within the Australian system students are given grants to pay for their studies, which they are then obliged to

repay through taxation. This forces students to consider the long-term costs of their studies, and to make responsible decisions about the length of time they wish to continue enrolled in education.

In answer to the question regarding Brazil, there is a double inequality in evidence here. The first inequality for third world students looking for private vocational training is that they, the poorest students, are obliged to pay for their qualifications. The elites, on the other hand, do not have to pay. Secondly, once these poor students graduate, they have no guarantee that their certificate will improve their chances on the job market. Governments should at the very least ensure that private education is accredited so that students can be sure that their studies are worth something.

If we can show students clearly at what point they will enter the job market, I think we will manage to reshuffle and rebalance the educational system. It is important that students and families know where employment opportunities exist in order to enable them to make informed decisions about education.

Regarding flow regulation; efforts were made to regulate flows according to ability in France, which allowed students to be oriented according to their motivation and ability.

I agree with Sidi Mohamed OULD HADEMINE; we are in need of greater autonomy and flexibility in terms of funding. Vocational students should be able to sign contracts. This type of education must be managed in a very different way.

C. Learning From Experience

Chaired by Haja Nirina RAFINJATOVO, Minister for National Education and Scientific Research, Madagascar

I. The Mexican and Latin American Experience

Hugo MORENO, Department of National Education, Technological University Committee, Mexico

I would like, on behalf of Arturo Nava JAIMES, to thank you for inviting us to share the experience of technological universities in Mexico. This technical training lasts for two years and gives very good and useful results.

This presentation will discuss what we have learned from our experience in Latin America, particularly Mexico, in delivering short-term vocational training. I shall discuss general concepts and draw on the Venezuelan, Mexican and Chilean experiences. I will make some references to a document drafted by the Inter American Development Bank, which was published in 2003. This document deals with short-term vocational training according to the US community college model. The document is available for your perusal; I do not intend to repeat it here.

When the technological university model was launched in Mexico, it was reviewed by OECD experts, who strongly supported the educational paradigm. I intend to discuss the historical background of technological universities in Mexico, outline the aims and objectives of short-term training, talk about accountability, discuss the challenges we face, and draw some conclusions.

Short-term vocational training is an essential vehicle for social mobility. This type of training can only exist thanks to the two-year cycle. Without this, student access to higher education would be very limited, particularly in developing countries. One of the most important features of short-term training is the integration into the labour market which the concrete nature of this kind of education promotes.

The document I mentioned earlier is of doubtful heritage. It mentions the models set up in Venezuela, Chile, Mexico and Brazil, but the information should be accepted with caution. There is no reliable source that explains how the document was drafted. For example, it suggests that in implementing short-term education Mexico followed the US community college model, but this is not the case. I am sure you will be able to forge your own opinions about the situation in Venezuela, Brazil and Chile; I shall speak specifically about Mexico.

1. The Emergence of Technological Universities

In 1990 The Secretariat for Higher Education suggested that short-term vocational training should be provided in Mexico in order to diversify the higher education offer. The Higher Education Secretariat sought an external opinion about the relevance of this type of training. In 1995, a study was conducted into international policies in the field of education. In 1996, several pre-projects were drafted, and a document was published in 1997 by the OECD. This study reviewed higher education in Mexico and took account of some campus visits which occurred in 1995. At that time, the experts only covered the emergence of technological universities, and did not review their success. They were mentioned as the only example of short-cycle vocational training for students. The same document also made recommendations that the technological level of the training be improved.

2. Historical Background

In the 1980s higher education was greatly expanded, despite the fact that it was not possible to train enough teachers. The quality of teaching therefore dropped. The Education Ministry launched a huge improvement program through, in particular, assessment processes. Experiences from Japan, Great Britain and France were used to establish a number of assessment criteria, which focused on quality, the involvement of the labour market, workload, continuity into other fields of higher education, flexibility, and breadth of studies.

On the basis of these and other studies, including labour market surveys to determine which programs should be on offer, we created three technological universities in 1991. In order to understand the socio-economic level of the students and the level of their demand for higher education, we conducted more studies. We also looked at the profile of teachers that would be suitable for these institutions. A State Commission for Higher Education Planning was created in each Mexican state. This allowed us to develop both long- and medium-term plan for both public and private higher education.

Very recently, we launched a portal which operates as a labour market observatory. This allows us to gauge the unemployment rate and to determine the demand for higher education.

In terms of educational policy, we sought to favour short-term vocational training as offered by the technological universities. The national program aims to enroll 150 000 students in the vocational sector. In 1997, an initiative was launched to provide this kind of training in both traditional and technological universities. The 2006 objective is to have 150 000 students, 120 000 of which should be in technological universities. This is a major challenge considering the current situation.

3. The Structure of Technological Universities

Technological universities are created following a request from regional governments. A contract is signed which ensure their funding and sustainability. They are usually small colleges with only two or three thousand students. They have steering committee and administration boards, which include representatives from federal and state government, the municipality, and from the business world.

Mexico has a medium to high level of education and tries to provide a decent basic level of education to all children in order to give them access to higher education. A grant program, specially devoted to technological universities, provides around 140 000 grants. 10% of students who receive these grants go on to finish their higher education.

We conducted some studies to investigate the profile of students attending technological universities. One of the main conclusions was that 30% of students would not have studied had they not had access to a technological university in their region. This illustrates the importance of these institutions as a vehicle for social mobility.

The Mexican National Program for Education 2001-2006 has three main objectives: equal opportunities, high quality education, and integration, coordination and management. Policy has remained the same through three different national administrations, which has allowed us to achieve major levels of impact on the society as a whole.

The federal government and regional governments share funding responsibility for technological universities. Policies are drafted by the universities' sub-systems stakeholders, and determine guidelines for the universities. External financing is based on external assessment. In January, the education system was restructured and we now have a single sub-Secretariat in charge of higher education rather than two, as we had previously. This change has made coordination much easier.

Our 60 technological universities cover 26 states. Programs are reviewed and updated every three years through the intervention of academic commissions.

Of 2.4 million students in private and public institutions in 2004-05, 84% followed a classical four-year cycle, 6.3% followed a normal cycle and 3.2% followed a short cycle. 35% of those following a short cycle attended a technological university. The study plan covers basic, technical knowledge, and geo-cultural knowledge.

Teaching quality is reviewed by a number of external bodies in each field of knowledge. In Mexico, the Council for the Certification of Higher Education reviews degrees according to the field of study. The degree is a certificate issued by the General Management of Professions.

The integration rate is acceptable. Assessment centers use technical standards and help former students to enter the job market. At present, 108 students are benefiting from a very successful exchange program which allows students to obtain their professional licence in France.

4. Assessment and Accountability

Our model uses 23 indicators and assesses efficiency, relevance, coordination and fairness. Our management procedures have been certified ISO9001.

Accountability is extremely important. External assessments were conducted in 1996, 1999 and 2002. Some of our assessors, from France and Canada, for example, are here today. During the last review 25 recommendations were issued, 16 of which we are pursuing at the moment, and 9 of which we will process in 2006.

Our aim is to provide high quality education. In this respect, we have identified 16 specific strategies and 30 other strategies which deal with cooperation and coordination. We are also working to improve evaluation, and are currently awaiting our fourth external assessment.

In May, we decided to launch an Ibero-American program, which will be the subject of the next summit between American heads of state in Salamanca.

5. Conclusions

We have been able continually to reinforce the network of technological universities. The system aims for sustainable development, which is of the greatest importance. Accountability is one of our underlying principles. Much remains to be done in terms of social recognition due to the recent establishment of this system. We believe that our experience could be useful to other countries and we are ready to share our knowledge with our colleagues.

II. The Tunisian Experience

Ahmed DHOUIB, Head of Higher Technological Education, Ministry of Higher Education, Tunisia

As in most emerging countries, the higher education student population in Tunisia is growing rapidly and has been doing so since the end of the 1980s. That population now represents 23% of the 18-23 age range, an increase from 8% in the 1980s. That figure is expected to surpass 40% by 2010.

Tunisia made a strategic choice to steer increasing numbers of students towards short-term training. In 2004, 25% of students participated in this kind of training, a figure which is expected to rise to 30% next year. This education is provided by the network of technological institutions, and usually covers medical studies or teaching.

1. The ISET system

At the beginning of the 1990s it became clear that there was a great deficit between levels of education and employment needs. Two surveys were launched which analyzed the business need in terms of both quality and quantity. The results of those surveys led to the development of institutes of higher education. These institutes provide executive and continuous training.

The first important characteristic of these institutions is their independence of the university sector. They depend on the Ministry of Education but are not linked to universities, although they do share excellent relationships with both universities and the business environment. Secondly, the professional community is very strongly linked to these institutions in terms of teaching, decision making, and policy design. Thirdly, a new faculty, which we call the technological faculty, is staffed by professionals which are neither former researchers, nor former high school teachers. This is a core element. These teachers have both technical and pedagogical skills and an in depth knowledge of the business environment. The fourth characteristic is the structure of fields of studies and specialities. Fields of study remain constant, but specialities may change over time, in response to need. This allows people to be trained to operate in several fields of employment. 75% of the programs are designed at national level and 25% are designed locally. Training lasts for five semesters across 2.5 years, and each semester ends with an examination. Students can join in September or in January, and can leave in September or December.

Course content combines work-study programs and final reports. The relationships these institutions enjoy with universities are relatively positive because bridges are built which allow students to access ISETs (Higher Institutes of Technological Education) after graduation and, conversely, ISET students can attend universities after graduation. For example, an ISET graduate can pursue an engineering degree in a university, or can go on to tertiary studies.

Finally, it should be noted that although access to university is almost exclusively reserved for high school graduates, people who have failed the baccalaureate but are employed are allowed to enter ISET for day courses, night courses, or distance learning.

The ISET system was created in 1995, and has grown rapidly since. In 1995 there were 2 000 ISET students, compared to 30 000 today. The number of faculty members (teaching staff) has increased from 150 to 2 200, and there are currently 22 institutions within the system, compared to 7 in 1995. Most Tunisian regions have an ISET institution. There were 800 graduates in the first promotion in 1998, and 4 200 in 2005.

2. Preliminary Assessment

After ten years of operation, the success rate of the ISET system is satisfactory. Around 88% of students complete their studies, spending on average 2.7 years studying. The latest survey, undertaken two years ago, showed that 82% of graduates are successfully integrated within the economy, 9% have chosen to pursue their studies and a further 9% were not identified. ISET graduates have a good reputation. Although there were fears when we began that we may not be able to attract sufficiently good students, the calibre of students has grown significantly over time and it is possible that entry requirements will have to be set.

Businesses are satisfied with the skills acquired at ISET institutions, although human resource management, some technological issues and communication could all be improved. From the outset, we forecast that around 10% of graduates would wish to further their studies within the traditional system, a number which has not increased.

Partnerships with the business community are beginning to develop, and some prototype training programs have been established. It should be noted that, among other things, ISET aims to train young entrepreneurs. Around 50 of our graduates have created their own companies.

The global cost of one year's training in an ISET institution, including investment in materials, payroll and other recurrent costs, is lower than a comparable year in a scientific stream. The cost of a successful year in the tertiary sector is equal to a training cycle at the same level.

3. Outlook

On this basis, some forecasts for the future can be made. The number of institutions is expected to grow to 27 from the current 22, and the number of graduates is expected to rise along similar lines. The increase in student numbers poses a number of challenges, which we have, in conjunction with our partner institutions, businesses and government, classified under three main headings.

- Maintaining the internal efficiency;
- Maintaining the image of ISET with its main clients;
- Maintaining the integration of graduates in the economy (external efficiency).

The partnerships with businesses must be continued, and we must also improve the monitoring and management of the ISET network in order to ensure consistency of output.

4. Action Plan

The action plan which will soon be implemented focuses ISET activities on know-how, new training systems, sponsorship, and a possible rotation between career and studies.

We will be introducing more flexibility into the curriculum, and harmonizing studies with business demands. I will not discuss funding, but of course the need for greater resources is a key issue if the system is to remain operational and sustainable.

We must implement institutional projects, give more autonomy to the different departments, and ensure the unity of training sessions.

We must improve quality, and develop the assessment culture. Quality management procedures are currently being implemented at ISET level through internal and external evaluation, and assessment tools are being generalized.

We will continue to give responsibility to the students for their study plans and career development.

We will implement more action plans with UTICA (employers' federation), and we must both anticipate and develop new and existing sectors.

Finally we will increase digital pedagogy, by initiating faculty members to ICT potential.

I would like to close with three comments. Firstly, I believe that ISET gives an example of how short cycle studies can be valuable but that dialogue and exchanges with universities and the business community are vital. Institutions must be well rooted both in the professional sector and in the locality. Secondly, in terms of course content we must ensure that students can further their studies, if they so wish. Thirdly, the creation of short-term vocational courses should be triggered by requests from the population, which believes it needs such training, or from employers. I

believe that this offers both a challenge and an opportunity for long-term investment. Important choices must be made as working with the immediate needs of businesses has limits. We aim to train a large number of young people in order to foster business creation, and to ensure that training is properly funded and of a high quality.

III. Korea and the Asian Experience

Jang-Ho KIM, President, Korean Research Institute for Vocational Education and Training, Korea

My aim today is to share Korea's experiences in short-term vocational higher education and training. Korea has achieved the so-called 'miracle of the Han River' by growing from its position as one of the world's least developed countries forty years ago to its current position as an industrialized country which ranks tenth in the world in terms of trade volume. Vocational education and training has served as the main driver in the rapid industrialization which has taken place over the last four decades, but that vocational education now faces various challenges due to a rapidly changing economic environment.

1. Environmental Changes and Policy Response

Initially, the growth which has seen Korea become the world's eleventh largest economy was driven by the state. An ongoing shift to an innovation-driven economy is increasing demand for highly-skilled knowledge workers. These workers are also emerging as a key source of national competitiveness, due to the advent of digital globalization and of an international knowledge-based society. The importance of short-term vocational higher education in creating the flexibility and reactivity which is needed to respond to changes in the labour market and the technological environment is now well recognized.

2. Changes in Policy Emphasis

Over the past decade, the Korean government has made a number of policy changes in response to changes in the economic environment. Firstly, it replaced existing government-led training systems with industry- and market-demand-based training systems. Secondly, the contents and quality of training programs were updated in order to ensure that workers were equipped with complex knowledge and innovation competencies rather than basic skill sets. Thirdly, the government and private sector established a basis for cooperation which reinforced the role of the private sector in the development of a competitive training market. Finally, government, enterprise and education sector stakeholders have been encouraged to collaborate in order to create a partnership for the promotion of human resources development.

3. Changes in Vocational Training

Since 2000, significant changes have occurred in the vocational training sector in Korea. Whereas during the 1990s the government played a key role in a vocational system focused on traditional manufacturing, the private sector has now expanded its influence. Employees in a wider range of industries are now benefiting from vocational training. Training methods have also become more diversified, with a shift from initial classroom-based training towards e-learning and field training. The level of training provided has also improved, with most training programs now focusing on mid- to high-level competencies and specialized skill sets.

4. Current State of Short-Term Vocational Higher Education and Training

Short-term vocational higher education and training is becoming increasingly important for the vocational competency of Korean workers. In Korea, there are three main forms of short-term vocational higher education and training:

a. Employer-Initiated Short-Term Training

This is widespread in most large Korean corporations. It is directly primarily at the core manpower of the organization and is usually conducted in on-site training and education facilities, although public or private vocational training institutions may be used if the company does not have its own resources.

Employer-initiated training programs which meet government requirements receive financial support from the Employment Insurance Vocational Ability Development Fund. In practice, however, relatively few programs qualify for funding, and in the majority of cases it is the employer who pays. In 2004, 1.66 million employees from 64 000 companies were trained with the KRW 180 billion supplied by the Employment Insurance Fund.

b. Entrusted Education for Employees

Certain companies entrust the short-term vocational education of their employees to suitable training institutions. Thanks to the government's industry-academia cooperation scheme, levels of entrusted education for industrial workers are steadily increasing. By March 2005, 5 000 employees from 3 000 companies were participating in entrusted education programs.

c. SME Vocational Training Consortia

SMEs are encouraged to cooperate in order to provide vocational training for their employees, which is conducted using the high-quality training facilities and equipment of large corporations, employer associations and public training institutions. Since the project was established in 2001, the number of participating consortia has risen from 6 to 37 and, by May 2005, 8 polytechnics and 2 prestigious universities were using this channel to contribute to the invigoration of SME education and training. This project has been particularly important as SME workers had, in the past, been comparatively isolated in terms of access to vocational education and training.

5. E-Learning

Thanks to Korea's world-class IT infrastructure and the e-learning enhancement policies implemented by the government, e-learning is rapidly gaining ground and is being actively used by large corporations in the manufacturing, service and financial sectors. Since the e-learning training system was introduced in 1999, the number of e-learning trainees has increased significantly. By 2004, e-learning accounted for 42% of trainees, a total of 865 000 individuals. The number of e-learning institutions has also risen sharply from 16 in 1999 to 108 in 2004.

6. Recent Trends

Blended learning is emerging as a way of combining the strong points of both e-learning and regular classroom training. Through the e-learning training consortium project, stakeholders are promoting e-learning training and targeting it at SME workers and regular workers. Large

corporations and public training institutions are contributing to the establishment of new types of training by providing other companies with the e-learning content they have developed.

7. Best Practice

Korea Polytechnic University, KPU, is a four-year specialized university that the Ministry of Commerce, Industry and Energy established in order to foster highly-skilled manpower and to enhance skill competencies through industrial and academic cooperation. With the purpose of fostering creative talent the university conducts manufacturing skills courses and oriented practical education by using industrial workplaces as its campus. In return, enterprises use the university as their research and development laboratory.

Enterprise entrusted education is one of KPU's many industry-academia programs. KPU also provides technical education programs. In 2004 KPU delivered training to 604 students through entrusted education courses which were openly requested by enterprise. 268 people enrolled in and completed education programs operating with support from SMEs.

Another good example of best practice in Korea is the customised education system of junior colleges. Since the late 1990s Yeungjin College has operated an active policy of industry-academia cooperation in fields such as information communications. The customised education system is a workplace-demand-oriented one, unique to this college. It provides outstanding professional manpower to enterprises through education quality assurance methods such as a specialized skill accreditation system and a graduation accreditation systems. The customised education system reflects the desires of the labour market. It provides workplace-oriented education through the continuous improvement of both the curriculum and educative materials, as well as through the operation of specialized research committees. Yeungjin College is currently providing customised education to 841 trainees with the agreement of 39 enterprises.

One example of customised education within the college is the C-Practical Project, CPP, a training program for mobile communications software programmers. Since conducting its first CPP program in March 2003 Yeungjin College has run six of the four-month programs. By the end of 2004, a total of 120 people had completed the program. Most of those people succeeded in finding employment in mobile companies.

8. Conclusions and Recommendations for the Future

Korea's experience shows us the importance of short-term vocational higher education and training in today's fast-changing world, and allows us to draw several significant conclusions. Firstly, enterprises need to invest more in the education and training of employees if they wish to increase their competitiveness. In order to increase technological innovations, enterprises should actively provide their employees with short-term vocational education. Secondly, the government must make an effort to raise the levels and efficiency of vocational training policies, and should look at reforming vocational training towards the creation of a workplace-driven system. Short-term education should be placed in the centre of that system.

The innovation of higher education curricula is of vital importance. Higher education institutions should break from rigid academic structures and innovate to meet the demand for highly-skilled knowledge workers. If we are to successfully foresee and meet demands for core talent in a rapidly changing industrial environment we must increase the cooperation between stakeholders. Mutual trust and cooperation between governments, enterprise, higher education institutes, vocational education and training institutes at the national and regional levels is of great importance.

Finally, we should actively use information technology in the area of vocational training. By providing relatively inexpensive learning to users at any time, anywhere, e-learning enhances the accessibility and efficiency of learning. The newly emerging blended learning also creates a synergy effect by combining the strong points of e-learning and classroom learning.

IV. Question and Answer Session

Herman ARANEDA, Director, Labor Competencies Program, Fundacion Chile, Chile

I am very impressed by the way in which Jang-Ho KIM described the mobilisation of stakeholders in Korea. I would like to know how this was done. What incentives did you put in place in order to persuade stakeholders to cooperate in this way? What financial incentives do you provide and what proportion of the investment is public and what proportion is private?

Beriwan KHAILANY, Deputy Minister for Higher Education and Scientific Research, Iraq

How have you managed to obtain and ensure cooperation between the private sector and the government in Korea?

From the Floor

I would like to ask a question of Ahmed DHOUB. We have noted the success of the project you described but, as far as the faculty is concerned, how do you train the teachers for ISET? There was an ISET which trained executives who are very much appreciated by companies but I do not know where their teachers were trained. I am not sure if this ISET still exists.

You successfully developed cooperation with companies and to allow students to pass from their studies straight into the business world. How did you manage this?

My final question concerns methodology.

[Break in recording]

From the Floor

ISETs have grown at an incredible rate and require significant resources, both human and material. Do you believe that this growth rate will continue?

William Experton, Lead Education Specialist, World Bank

I was extremely impressed by the presentations of all three speakers, particularly their acute analysis of the operations of their institutions. These are young institutions dedicated to vocational training, and therefore dependent on the labour market to validate their actions. What do you think about your initial concept of these institutions compared to the reality which is now in place? Have you changed your original model in any way?

Evelyne FOI, Director General, CEGEP, Canada

Regarding ISETs, I would like to know what kind of links exist with universities. Is there ongoing cooperation to ease the path of students into higher education? Are there any committees charged with the analysis of professional situations and the type of training which should be given in certain streams?

Linda English, Senior Education Specialist, World Bank

All three speakers insisted on quality: quality assurance, quality control and quality assessment. As far as I know, one of the main quality issues relates to teaching. I would like to know what stage all three examples have reached in terms of ensuring the quality of your teachers ? Where do they come from? Do they stay or if they are good do they move on? Are they attracted by the business world? How do you ensure that the best teachers remain? If teachers are efficient, why do they not go to the universities where they would work less for the same pay?

From the Floor

I would like to know more from the point of view of teachers in terms of maintenance, replacement and how technology is used within programs. Experience in some countries shows that the extensive use of technology is extremely expensive. What is the management response to improving those issues, if they do indeed arise?

From the Floor

All three speakers have touched upon some extremely important issues regarding internal and external relations, quality assurance and market surveys. My question is for Ahmed DHOUIB. What percentage of professionals provide classes in the ISETs? Do ISETs enjoy a specific status that distinguishes them from the traditional educational system?

Hugo MORENO, Department of National Education, Technological University Committee, Mexico

Regarding the skills and competencies in Mexico a technical skills standard was defined, based on the level of professionals. Regarding technological institutions, we developed at least two professional technical standards which enabled us to train professionals who, thanks to their experience, have the appropriate practical skills. After undergoing evaluation and accreditation, they can reach appropriate professional standards for teaching. In Mexico, we have 18 assessment centers.

Regarding assessment, our policy is to develop external assessment and to hold an evaluation every three years through three or four meetings of the university presidents. This has been done since 1993 and results in evaluation schemes for improvement policies for the technological universities.

Regarding links with other higher education institutions, more progress needs to be made to allow our students to follow further studies. At present, that figure is around 10%. Our main concern is to train young people for the labour market rather than for further study, although it is likely that in the future an increasing number of students will go on to further education.

We are also considering the issue of faculty quality. Each technological university has made some effort, but we have yet to establish a harmonised national program. We have already clearly defined the updating of our teaching staff.

Ahmed DHOUIB

The first question covered the training of teachers and our ability to retain staff despite a rapid increase in numbers. This is, of course, of great importance as the quality of the teaching staff is the main issue in providing education. Good teachers can always provide education regardless of the materials at their disposal. Prior to the establishment of ISETs, a teacher training program had

been set up in cooperation with the World Bank and through two bilateral agreements, one of which was with France. This program provided the original teachers for ISET, and ensured that they had a good level of technical knowledge.

As regards progress since 2000, higher education has developed very quickly and we have been concerned about our ability to provide trained teachers. High school graduation numbers have risen by 6-7% and we have tried to meet this demand through our traditional teacher training programs. We have a revolving system of practical training between the professional and educational worlds, but it brings disadvantages alongside its advantages. We are embarking on a sponsorship program with business which will allow students to be sponsored by companies and to spend some time within that company. This is not a rotation program.

We have been fortunate that, in Tunisia, government has remained committed to this project over the last ten years, and we have never experienced funding concern. From the outset, the rate has remained steady at one teacher to fourteen students. Higher education in Tunisia is guaranteed by the constitution: every high school graduate has the right to pursue higher studies.

The 3-5-8 system can work as a lever. We should study this over time and consider each component of the training system carefully but it appears preferable to hire someone with a lower level of qualification who is efficient and competent rather than a highly qualified person who lacks professional competencies.

Regarding the implementation of our initial model, we have maintained our objectives with only slight corrections regarding staff, career development, promotion and relationships with the business world. We work in every Tunisian region, and our main project definitions have remained unchanged.

Concerning the relationships with universities, ISETs are part of higher education and will, I believe, continue to be so as long as those good relations are upheld. Flow occurs in both directions; graduates can turn to ISETs just as ISET graduates can turn to further university-based studies.

Quality control does not relate solely to teaching, but that is perhaps the most important aspect. If we are to maintain the system, we must improve the quality of our teaching. Only 2-3% of our teachers move into the traditional higher education and research sector. This is not a high number, but we have measures in place to ensure that it does not increase. We try to ensure that teachers work more for the system, within the system. Technological transfer enhances relationships with businesses, which is interesting for teachers. Teachers can take time off to set up their own businesses and entrepreneurs can undertake continuous training within an ISET. There are many ways of improving working conditions for teachers, and of finding incentives for them to stay.

About 30% of our teaching staff are professionals. We have different teacher status levels, from those who give hourly classes, to visiting teachers, to those with expert status. This system attracts highly qualified experts.

Jang-Ho KIM

The Korean experience focuses on enhancing cooperation between the private sector and government, and among stakeholders. We have many financial incentives to enhance partnership. For example, SMEs are encouraged to join consortium training projects. Some enterprises in specific areas choose to form consortiums to deliver training and education to their employees and receive support, based on employment insurance, to help them to conduct this training. Many government support systems encourage cooperation between academia and industry. The Ministry of Education also has funds available. Some universities and colleges are able to access funding if they provide programs to corporations. This is another way of providing incentives.

I think it is helpful to talk about the Korean situation because it shows how the government can encourage cooperation between industry and academia. As in many developed countries, there is a major gap between the advancement of technology and that of academic curricula. The Korean government has decided that, in order to decrease that gap, cooperation between sectors should be enhanced, and skills matched between the two. There are two types of government policy: one provides financial incentives to increase cooperation; the other sees the government playing an active role in increasing cooperation by creating programs and intervening directly. The government has also developed industry-academia cluster projects to bring regional groups together.

June 7th 2005

D. Implementation of Short-Term Vocational Higher Education Streams

Chaired by Philippe PIERROT, President of the Assembly of IUT Directors, France

I. Fluidity and Adaptability

Wataru IWAMOTO, Director, Division of Secondary, Technical and Vocational Education, UNESCO

It is great honour for me to make this presentation on short-term vocational education. I have been the Director of the Division of Secondary, Technical and Vocational Education at UNESCO for the last three years and was a member of the steering committee for this conference so I am delighted to see that it has led to such fruitful debate.

Yesterday, it was very moving to see that every member recognized that educational systems are not comprised of fragmentary elements but that every link in the chain, from kindergarten to higher education, is important. If we are to offer quality higher education, we must have quality secondary education, which in itself depends on having well-trained secondary teachers who have graduated from good colleges. Policy makers must remember that the educational system is a holistic structure which relates not only to other elements within the system but also to the world as a whole.

1. Labour Market Changes and Accessibility

Changes in the labour market are occurring rapidly, with the popularisation of ICT and globalization resulting in major alterations to the labour market which we have known over the last fifty years. However, popular perceptions of employment have not kept pace with these changes. Although many people still expect to have a job for life, the reality today is that graduates are unlikely to find a job for life and that, in addition to blue-collar jobs, white-collar jobs are being outsourced or moved offshore. People must change the way in which they view work, consider methods for self-improvement and learn to combine technical innovation with an entrepreneurial spirit in order to flourish in the workplace.

The main priority of UNESCO within the world of education is accessibility. Five years ago, the World Education Forum at Dakar identified six goals, of which the third was to ensure, "that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs." Although it is difficult to define 'life skills', in general they can be viewed as psycho-social skills which allow people to communicate with others and coordinate their actions with others, particularly in the workplace. In this context, the importance of technical skills should not be forgotten either. Sometimes it is believed that the needs of a knowledge-based society relate only to academic skills. However, technical skills are also an absolute necessity.

The challenge is not only to keep education abreast of the rapidly evolving demands of the labour market but also to provide pathways for career progression which are attractive for both young people and adults. The changing demands of the workplace need to be matched by flexible

education programs, such as STVHE. When implementing short-term vocational higher education, the guiding principles should be demand, flexibility, and the needs of the labour market. Curricula should be relevant to the world of work and should not insist on completion of full diplomas but rather allow students to leave and enter the world of study in line with their needs and skills levels. Teaching should be centred on practical considerations.

2. General Education

Nevertheless, a general education remains vital. While students do not necessarily need education which gives them a broad understanding of art or literature, they definitely require training which instils entrepreneurship skills and gives them the skills to tackle different challenges throughout life, particularly given the rapid obsolescence of technical knowledge.

In terms of teaching, a distinction should be made between university academics and vocational trainers. The input of industrial and professional leaders should be welcomed, possibly in the form of an advisory body which ensures that the needs of society and industry are reflected in education courses. It should also be noted that, if too great an emphasis is based on research, there is a risk that teachers will focus on writing papers rather than on teaching. While teaching should always be based on the results of research, I do not believe that it is important for all teachers providing short-term vocational education to be involved in their own research.

3. Standard Setting

One of UNESCO's functions is the setting of international standards and norms. The General Conference of 2001 approved the Revised Recommendation on TVET, which reflects the needs of modern industry and insists on the importance of environmental concerns and, particularly, of continuing education.

4. Lifelong Education

The real aim of short-term higher education is that of lifelong learning. In some countries, people enter short-term education long after they have completed their formal education. It should also be remembered that short-term education has a strong link with higher education and with ongoing workplace training. I believe that, in the future, adult workers will experience greater mobility throughout their careers, moving between their place of work and a educational institutions as they seek to expand their knowledge, update their training, and meet the employment requirements of a changing labour market. Even academics should not remain in ivory towers throughout their lives but should gain practical experience in their field of knowledge in order to share it with their students.

5. The Case of Japan

Technology colleges and universities should be given their rightful place in the education sector. In Japan, graduates of technology colleges were the motor of technical development during the 1960s and 1970s. However, during the 1980s, it was recognized that technology colleges graduates had no way of entering graduate-level studies and, therefore, had no option but to enter the labour market. With this in mind, the Japanese Ministry of Education instituted a system whereby technology graduates are able to enter the third year of an engineering degree without passing demanding entry exams. Although some university professors complain that students who join courses by this route lack the necessary culture, these students also tend to be extremely motivated

and focused on the practical application of their studies. Separate advanced courses were also created which allow technology graduates to reach an academic level which makes it possible for them to enter graduate school.

Technology college graduates are no longer obliged to enter the workplace immediately; in fact, 40% of graduates now follow a comprehensive five-year course which combines basic training with university-level or advanced studies. It should be noted that although, technology college teachers now wish to be called university professors, this is not legally possible as technology colleges integrate elements of both high school and university education. Nevertheless, there is growing justification for raising their status and profile.

We should view this system in the light of lifelong learning and the maintenance of life skills in a changing society.

II. Contents and Processes

Marc ROMAINVILLE, Professor, Universities of Namur and Louvain, Belgium

In my role as a professor in Louvain in Belgium, I am in charge of a teaching program for short-term vocational higher education teachers. This has led me to study the definition of content and process within higher education training; in this presentation I shall discuss my conclusions. First, I shall consider the fact that, in higher education in general, a new logic has been developed which has resulted in major changes to the definition of content. This dynamic, far from undermining teaching, brings us back to the very essence of higher education.

1. The Definition of Content

The definition of content in higher education depends on research-based knowledge and a consideration of which elements of the best-adapted and most innovative knowledge should be taught. Expert committees study the state of knowledge in a given field and the curriculum is developed on the basis of their recommendations.

However, only part of that knowledge is taught and only a portion of it is then retained by the students, with the result that students have only a very limited amount of knowledge which they can exploit during their working lives. In the past, little thought was given to how students would use the knowledge they acquired: it was simply hoped that one day, some of it would prove to be useful. Unfortunately, this was rarely the case and students tended to accumulate 'dead' knowledge, which was used to pass exams but was then forgotten only a few weeks after the exam. They did not acquire knowledge in a form which allowed them to solve future problems.

We have now switched from this research-based internal knowledge to a more external logic which focuses on social practices. When curricula are being developed, the focus is now on the identification of skills and knowledge which students will need in order to be integrated into the labour market. The aim is to balance the natural knowledge and instinctive reactions of the students with practical learning. Having identified this non-intuitive knowledge, the skills and knowledge which will be most useful in terms of social practice are then selected for inclusion in the curriculum.

Unfortunately, I do not have time to examine the details of this approach so I shall give a single example. In Belgium, teachers are trained at specialist training colleges, the curricula of which focus on what are believed to be the most appropriate areas of knowledge for future secondary school teachers. For example, it was felt that teachers should know about Piaget, about cognitive psychology and about educational sociology, so these subjects were included within the mosaic that

composed the curriculum. However, this kind of knowledge is not useful in the daily practice of teaching. Having realized this, the training logic was inversed and, instead, the focus was placed on the skills and knowledge which teachers actually need in order to be able to teach efficiently. By recognizing that they did not need to be experts in cognitive psychology and educational sociology, we were able to design a new system.

It was realized, for example, that teachers often experience difficulties when speaking to parents, particularly those from disadvantaged backgrounds. One of the primary reasons for this problem is that the teachers often have 'natural' knowledge which makes them assume, wrongly, that parents from disadvantaged backgrounds are not interested in the education of their children. This assumption leads teachers to believe that it is difficult to involve and integrate such parents in the life of the school. In order to counter-balance this inclination, increased training on family sociology was provided.

2. The Convergence between Vocational and Higher Education

Of course, this new logic has met with opposition in some quarters. Many people have been concerned that higher education will lose its soul if knowledge mobilisation is placed at the core of curricula; there have been worries that it could lead to utilitarianism in teaching and education. However, I believe that this rhetoric is flawed and that there is, in fact, a convergence between the new objectives of vocational education and the traditional objectives of higher education.

A number of thinkers, including Louis Liard, a French Minister for Higher Education at the end of the 19th century, the German Von Humbolt, and John Stuart Mill, have recognized that higher education is a method. Liard stated that, "Higher education is, at the end of the day, a method, the prime objective of which is to raise minds above the knowledge of detail and make them able to judge independently and produce personal ideas." This is a very traditional vision of higher education.

However, we must also consider the demands made on education by the economic and social world. When employers are asked about education, they usually note that, due to the speed with which knowledge becomes obsolete, it is of great importance that students also have general cognitive abilities. Research conducted on a number of employers who hire mathematics graduates but do not recruit secondary school graduates showed that employers are looking for people who have a capacity for reasoning, abstraction, conceptualisation, and rigour, in addition to creativity and an ability to deal with situations of uncertainty and complexity.

As regards the specific achievements of higher education, it is interesting to consider the meta-analysis into the impact of higher education on students which was conducted by the Americans Pascarella and Terenzini in the 1980s. Their research aimed to identify what is acquired as a result of higher education by distinguishing between the net effects of education, namely the skills acquired by individuals who received higher education, and the natural learning of those who did not progress to higher education. Clearly, those who received higher education accumulated additional skills and knowledge. However, this was not the main impact. Rather, the main impact of higher education was on general cognitive ability: students who received higher education had a better ability to deal with complex problems, to reason analytically, to think critically, and to communicate effectively. Developing higher education curricula with an increasingly professional bias is not contrary to the traditional aims of higher education as long as it promotes the learning of general cognitive ability. Indeed, I would argue that such curricula promote the acquisition of these valuable skills.

III. Diplomas and Certifications: Recognition and Social Status

Georges ASSERAF, Inspector General of National Education Administration and President of the National Committee for Vocational Certification, France

As Marc ROMAINVILLE highlighted, it is important that we establish what we want our students to know before we define what should be taught. The model I shall present, which was developed in 2001-02, sets guidelines for the construction of higher education vocational diplomas which could be awarded in the context of a national or international certification system. A number of certification systems have already been developed on the basis of this model within Europe.

1. The Model of Sustainable Professionalization

The project has its basis in the observation that, in the European area, various objectives have been set in terms of education and vocational training which rely on developing qualifications to maintain European competitiveness, favor professionalism and the mobility of workers, and enhance the employability of European citizens. However, paradoxically, in each country, vocational qualifications are based on local and national needs. As decentralization increases due to globalization, this localization of training continues to grow. Diplomas are built according to national requirements even though the fact that we are living in a European environment should mean that vocational qualifications are based on European, rather than local, labour profiles.

The changing European environment makes an international approach increasingly necessary. The aging of the population and the difficulty of recruiting young people makes it ever more important that appropriate training be given to the workforce and that pools of skilled people be created at the European and international levels. Globalization and increasing homogenization give further impetus to the development of international standards and certificates. The high levels of technical training offered in many non-European countries should not be forgotten.

The model which has been constructed, Sustainable Professionalization, aims to meet these needs by promoting the construction of international certification systems. Vocational profiles developed on the basis of shared expertise tend to be more successful than those developed independently as the sharing of best practices and technological know-how makes it possible to build new professional profiles. International certificates which are applicable across borders promote mobility and raise educational standards, as well as encouraging transparency.

Through the Sustainable Professionalisation model, diplomas for common skill sets can be developed which are suitable for all levels of education, whether secondary or post-secondary, in all sectors. At present, diplomas have been developed for the footwear industry, tourism and hospitality and it will soon be applied to industrial and commercial sectors.

2. A Bottom-up Methodology

The common architecture used in this model is particularly interesting because it complies with the European principle of subsidiarity, according to which training and education are the responsibility of the member states. As the model uses a bottom-up methodology to construct diplomas, the resulting qualifications are in line with existing and anticipated labour needs and should result in reduced graduate unemployment.

The main actors in the process are employees and employers in professional sectors, social partners, teachers and trainers, and expert researchers and academics. In order to build a curriculum, representatives and experts from various countries identify the vocational profile and skill set for

the sector. Then, a certification process establishes which skills must be acquired before a student can be deemed competent in their chosen area. Finally, the consultative committee decides on the training which should be given, and through which channels, in order to provide students with the skills which have been selected.

The profile is constructed on the basis of activities, tasks and skills rather than on a conceptual approach. This 'descriptive' approach views the activity as a series of elements, each of which must be included in the final vocational profile. For example, although in the past Greek tourism qualifications were not valid outside Greece because they related to the specific context of that country's industry, qualifications built under the new model will be valid in other European countries such as Spain, France and the UK. This change will encourage graduate mobility as, rather than relying on their company for the chance to work in another country, employees will find that their qualifications are recognized across Europe within their sector of activity. The model combines both professional needs and knowledge to create an adaptable, non-country-specific qualification.

In order to define certifiable objectives, an ad-hoc quality-based method is used to set consistent requirements. This differs from the French model to the extent that the experience of the person conducting the assessment is not taken into account; rather, the candidate's skills are assessed on the basis of the quality methods used by the industry in question. The points which are to be checked and certified are clearly identified within the profile.

3. Common Requirements and Local Needs

In addition to common requirements, diplomas developed on the basis of the common architecture include a number of specific national components which reflect local needs. This combination of shared and specific components ensures that graduates are employable across a range of markets. National components, which are supervised by national authorities, aim to bridge any gaps which exist between formal training and previous experience. Common components reflect the needs of the labour market. Professional skills and practical ability are strongly linked to ensure that graduates are able to perform at the level expected by employers.

This combined approach makes it possible to apply with national training requirements while creating a professional employment profile which acknowledges previous experience and is valid both nationally and internationally. The availability of credit transfers between professional and vocational modules favours the development of networks of institutes and universities. The clear definition of employee skill sets provided by such a system also makes it easier for companies to manage their human resources effectively. The model, which was validated by the European Commission in 2002, is compatible with other European initiatives and will probably be integrated into the Copenhagen model.

The first two diplomas drawn up following this model were awarded in 2005. It is already being applied in France, Greece and Hungary and will soon be applied in Italy and Estonia. New reference frameworks are being drawn up for the plastics industry, international trade and the footwear sector, among others. The European Commission is extremely optimistic about the potential which this model offers for the development of vocational training.

IV. Question and Answer Session

Philippe PIERROT

We would now be interested to hear brief questions from the floor in response to these excellent presentations on the need for multi-level cooperation and standard setting.

Mohamed EL SAID

It is clear that teachers in technology colleges are paid less than university teachers. Although their functions are different, the fact remains that it is essential that we attract experienced, high-quality teachers to technology colleges. How can this be possible when they are paid less but are still expected to have teaching, professional and research experience?

Mokhtar ANNAKI

The model that Marc ROMAINVILLE and Georges ASSERAF promoted can be applied to stable systems where knowledge and the labour market are not in flux. However, as we live in a changing world, any model that we adopt must be sufficiently adaptable and flexible to reflect this.

It should also be noted that, although a lot of knowledge is forgotten and is not applied in practice, this knowledge often re-emerges and becomes relevant when people change their field of professional activity. Knowledge which has never existed cannot re-emerge. Just because something cannot be applied immediately does not mean that it should not be taught, nor does the fact that knowledge is not directly applicable to a professional sector mean that it is not beneficial. For example, even though I studied engineering I greatly appreciated the fact that I received education in sociology and psychology. I believe that it is very important for communities to have a common basis for understanding. If people are to be truly mobile in a changing world, they should acquire the greatest possible amount of knowledge. For this reason, I do not believe that a single model is appropriate; rather, overlaps between practical and theoretical and technical and professional knowledge should be encouraged.

Beriwan KHAILANY

Wataru IWAMOTO presented a chart showing the ages of students admitted to colleges and universities. Could he confirm whether students who graduate from high schools are obliged to obtain certain entry qualifications or acquire specific skills before joining a technology college? Do students attend vocational high schools prior to attending technology colleges?

From the Floor, Mexico

[Question in Spanish - not interpreted]

William EXPERTON

I agree with Marc ROMAINVILLE that, even if individuals are going to enter a specific job market, they still require a mastery of general cognitive skills. This approach is in line with the conclusions of surveys which are conducted with employers, who state that they seek discipline, good personal and communication skills, and cognitive abilities in addition to knowledge of foreign languages. In institutions such as the World Bank, it is often questioned whether professional

training requiring significant capital expenditure should be provided in developing countries and whether it would not be better to encourage the development of general training institutes which better meet the needs of the labour market. It is felt that this general training also gives greater mobility to students and provides greater opportunities for climbing the social ladder.

From the Floor

Mr IWAMOTO, could you clarify whether there are common points between Japanese technology colleges, US community colleges, and the CEGEPs in Canada? Could you discuss the main similarities and differences?

From the Floor

[Question in Spanish - not interpreted]

From the Floor

Wataru IWAMOTO's presentation clearly explained how the goals and directions of short-term vocational education target the creation of a lifelong-learning society. Could he expand on the methods UNESCO is adopting in order to promote and facilitate STVHET, particularly in developing countries?

The representative of the European Union discussed shared skills. How will shared skills programs be evaluated? Will this be conducted on a local basis or at a European level?

From the Floor

Could Wataru IWAMOTO explain how bridges will be created between vocational higher education and academic higher education? In African countries, there are few technology specialists and those that are available are usually employed in sectors where wages are higher than in education. For this reason, professional education is provided by academics, who tend to focus more on theory and research than on the practical dimensions of their subject. What are his recommendations for dealing with situations where financing is inadequate to attract professionals? Yesterday, our Malian colleague noted that international investors are usually interested in the service sectors, such as accounting, and only rarely take account of the industrial and agricultural sectors. In this context, can internal mobility really occur in line with our expectations and ambitions?

From the Floor

Wataru IWAMOTO mentioned that, in the context of short-term training, it is essential that teachers come from the industrial sector. However, how is it possible to guarantee the quality of the instruction provided by these teachers? The fact that they are up-to-date in terms of technological progress does not automatically imply that they are capable of conveying this knowledge to students.

Marc ROMAINVILLE discussed the convergence between higher and vocational education. It should not be forgotten that higher education also has a practical dimension and that a practical approach is sometimes appropriate, as can be seen, for example, in the teaching of civil engineering. Secondly, we must consider whether the starting point when designing a curriculum should be knowledge or skills. In my opinion, there should be a two-pronged approach which

combines both theoretical knowledge and practical ability and that, in order to reflect the ever-changing realities and expectations of the labour market, we should not favour one over the other. Employers are often unable to anticipate their own future needs; we should not rely too heavily on their guidance.

Roger EYCHENNE

We should ensure that, by focusing on the convergence between knowledge and skills, we do not create barriers between secondary degrees and higher education. It should be noted that there is not always a clear continuity between regional and international demands; we must take great care to ensure that solutions and training are appropriate for the field in which they will be used. The issue of professionalisation is a concern for everyone today. In my view, this is linked to the fact that massification and European-level training makes it difficult to tailor courses to students' needs.

Marc ROMAINVILLE

I agree that one of the limits of a skills-based approach is that there is a risk of focusing on narrow immediate needs which can change quite rapidly. This is another compelling reason for providing training in general cognitive knowledge, particularly as it is difficult to know how a student will apply the knowledge he has gained during his future career. It should be remembered that many students fail to apply knowledge they have acquired during their professional lives; this is often due to the fact that, because training programs do not focus on knowledge mobilization, students find it difficult to mobilize their learning once they start working. It is this concern that has, over the last ten or twenty years, led to the promotion of active learning methods in schools which give students the skills they need to mobilize and implement their skills and knowledge.

Further to the question about the value of providing expensive technical and vocational training in developing countries, it is true that my reasoning could lead the World Bank to conclude that it is useless to invest too heavily in such programs. However, it should be remembered that even general cognitive knowledge must be applied when dealing with specific issues. Students cannot be taught to think in a vacuum: their training must be based on solving specific practical issues and these should, as far as is possible, relate to the field in which the student will work in later life. An appropriate balance must be found between specific job-related knowledge and general cognitive training.

Although I did not dwell on the issue of practical and technological training, it is, of course, very important. It should be noted that short-term vocational training in computing and info-graphics places a great emphasis on technological aspects. However, the professional insertion of students who have followed these courses depends less on their knowledge of software and programming language, which quickly becomes out-dated, but rather on their problem-solving ability and flexibility. Students need mental skills which allow them to identify exactly what a customer wants and find a solution which meets their requirements. If a student is trained to analyze a customer's needs and has enough programming expertise to meet those needs, he or she will be successful.

Wataru IWAMOTO

The easiest way of attracting teachers from the world of business is to increase salaries. Although this might seem like a joke, in many Asian countries like Japan, teaching salaries are fixed in line with average private sector salaries. Unfortunately, in many countries, the status and salary awarded to teachers is too low. As regards the teaching skills of industry professionals, it should be noted that they are often better than traditionally-trained teachers in communicating their

knowledge. Attracting industry professionals to work in schools depends on publicity and the creation of inter-disciplinary advisory councils.

Teachers face a significant challenge in interpreting and presenting their technical knowledge in a theoretical fashion. The syllabus taught by a school should incorporate the knowledge which students should acquire in such a way that it can easily be absorbed.

At the age of sixteen, junior high school students can choose to attend either a senior high school or a technology college. It should be noted that, as there are only 62 technology colleges in Japan but over 4 000 senior high schools, almost 90% of students attend ordinary general high schools.

Unfortunately, although 'education for all' is a priority for UNESCO, relatively few concrete projects have been undertaken to establish holistic secondary and higher education programs. A project in Nigeria has established technology colleges and the new system being developed in Iraq also incorporates higher education.

There is no single subject called 'psycho-social skills' and no textbook which shows how they should be taught. However, it has been found that these skills can be learned through experiments and collaborative workshop sessions. Teachers must ensure that not only they cover psycho-social techniques but also that they teach students how to operate effectively within a team.

Finally, some speakers mentioned the issue of massification. In the 19th century, higher education was the privilege of aristocrats and the bourgeoisie. Now, it is much more popular and widespread; if more than half of young people attend university then we cannot expect too much from higher education. The role of universities should be to provide general cognitive knowledge rather than fragmented specialist knowledge. The problem is how to combine this general cognitive approach with appropriate technical knowledge.

Georges ASSERAF

The question was raised of how a descriptive model can keep pace with changing technology and workplace requirements. During my presentation, I simplified things somewhat but my main message is that the logic on which a diploma is constructed should be inverted and that, by doing this, it is possible to take account of developments in the labour market by incorporating both industry essentials and market requirements. Two elements should be considered: firstly, that taking broad overview of existing technologies makes it easier to predict future trends, and secondly that professional realities and training content can be linked. As I showed, training must go beyond technical basics and include the general theoretical aspects which allow students to adapt their skills after they have entered the workplace. The modular approach taken by the model also makes it relatively easy to adapt to changing technologies and update content on a regular basis.

It is generally accepted that there are areas of knowledge which, while not directly related to specific jobs or professional sectors, provide people with the skills they need to adapt to changing environments. Traditionally, certificates were developed on the basis of the general theoretical and academic knowledge which underpinned the subject in question rather than on the vocational application of that knowledge. The new model is founded on the labour market and its changing needs.

I should note that I am not a representative of the European Commission but an employee of the French Education Department and the chairman of a commission on national certification. For the moment, European Union treaties do not allow the creation of a supra-national system as we are obliged to abide by the principle of subsidiarity. However, it is possible that, even if supra-national recognition is not given to new trans-European qualifications, these certificates will still be recognized by individual nations and European social partners.

In France, it was decided that past work experience, even that which is acquired informally, should be formally validated through the award of a nationally-recognized certificate. The commission that I chair is responsible for ensuring that this certification is applied. This system is currently being developed with the cooperation of the Ministries of Employment and Education and it is expected that the validation of past experience should have become relatively widespread within the next few years.

Although the content of training will, of course, vary greatly depending on the subject in question, this methodology can be adapted to almost any field of professional activity. Medical studies are an excellent example. For instance, surgeons perform a highly-specialized job by combining theoretical knowledge and skills which have been acquired through on-site training and internships. Although a third-year medical student might have acquired sufficient theoretical knowledge to conduct an operation, he will not be allowed to do so until he has also gained significant practical experience. This skills-building approach can be successfully applied to all employment sectors.

I would like to link the question about psycho-social skills to that regarding the ability of professionals to provide classroom teaching. A number of initiatives have been launched in France and elsewhere under which professionals and teachers cooperate in order to develop a combined methodology which directly targets their final goals. This approach reflects the fact that non-career teachers, who are perhaps taking a sabbatical from their normal professional activity, are often able to teach cross-cutting skills and content while career teachers focus on theoretical objectives. This sharing of competencies encourages the development of psycho-social communicative skills.

E. Structural Organisation and Management

Chaired by Maria Soledad IGLESIAS JIMENEZ, Under Director General of Vocational Training, Spain

I. The North American Experience

Sam MIKHAIL, Dean, Centennial College, Toronto, Canada

My presentation today shall focus on performance management systems in higher education and their application to the sector. The question we must ask is why we should bother implementing systems which assess performance in such institutions. Whether they are developed or developing, all countries face a challenge in their efforts to improve their higher education systems. Improving higher education depends on better resources, more autonomy, increased access to revenue sources and greater support. In return, the governments who provide our funding seek greater accountability and evidence of cost efficiency in resource utilisation; the adoption of effective resource management tools within our sector would make it easier to demonstrate progress in this area. The method which I shall present today was developed by two Harvard professors around ten years ago and has since been widely adopted in private and public sector institutions in Europe and North America. My aim is to explain how this simple, balanced framework can easily be applied to the public sector and, in particular, to higher education. The system does not require sophisticated training or new software and equipment.

1. The Canadian Context

I would like to start by sharing some background information about Ontario and higher education in the province. Like Germany, Canada is a federal state: there is no national Ministry of Higher Education and each of the ten provinces applies its own system. Although the CEGEPS, from Quebec, has been proposed as a suitable model for higher education institutions to emulate, the model which I shall present is that which is prevalent in English-speaking Canada.

Ontario has eighteen universities and 25 community colleges. There are major differences in the student populations of these types of institution, with undergraduates comprising only a fraction of those studying in colleges and the majority involved in vocational non-post-secondary programs. College students often work and are only able to study on a part-time basis.

There are also major differences in funding allocations with lower government grants and fees which are around half those charged by universities. On a per head basis, colleges receive only around 60-65% of the funding which is received by universities.

There are frequent calls for the system to be reformed and constant demands for the opportunities offered through the system to be improved. Although applied degrees are still only offered through universities in France, they are now available through the college system in Ontario. Short cycle programs are dealt with in a separate sector and are not associated with the universities, as occurs in the French IUTs. The Canadian approach combines American and European practices and increasingly resembles the fachhochschulen, which offer degrees which are not available through universities. However, given inadequate levels of funding and the prohibitively high costs of awarding degrees, the colleges face an uphill struggle.

2. Balanced Scorecard

The balanced scorecard, an approach to performance management based on the Harvard model, has three main features. It offers a strategic management framework which includes a measurement system and useful communication tools which facilitate the sharing of information with the wider community. A balanced approach consists of four perspectives. In a business context, the top perspective is the financial perspective; in a public institution, the top perspective shows the strategic goals which have been set. Underpinning this, at the bottom, is the learning and growth perspective, which focuses on the employees and staff of an institution. These feed into an internal process perspective, which combines all of the process which are required to deliver services to the primary stakeholders, namely the students. In some ways, this approach is not new: all institutions have a set of strategic goals and aim to deliver services through processes which are empowered by a learning environment.

For each perspective, the scorecard involves four key elements: objectives are set for the perspective; a corresponding set of measures or indicators are established; declared targets which, one hopes, are manageable and realisable; and a set of initiatives which will make it possible for these goals and objectives to be achieved. These initiatives are, ultimately, a set of inter-related and inter-connected projects which give rise to a series of projects managed within a larger portfolio. The framework which is created makes it possible to see the forest rather than the trees.

3. Practical Application of the Scorecards

The first stage in applying the scorecard is the identification and articulation of all of the institution's strategic goals. Each goal is then clarified through the setting of objectives, measures, performance drivers and outcomes for the four perspectives defined in the balanced scorecard. Links are created between the four perspectives through the definition of performance targets for each perspective and a measurement process is used to assess progress relative to the targets. The use of gap analysis systems is very typical in performance assessment as, if the gap is too large, it is clear that the targets need to be re-assessed and, if it is manageable, then strategies can be defined to close it. The use of a continuous quality improvement loop facilitates management and communication with stakeholders.

Typical strategic goals for a higher education institution might include: academic excellence; service excellence; managed enrolment growth; strategic partnerships; organisational development; and cost effectiveness and balanced budget. I shall show how the balanced scorecard can be used to articulate one of these goals: achieving excellence in academic quality.

When trying to achieve an institutional goal, care must be taken to link the four perspectives from the strategic goals at the top down through the stakeholders and internal processes to the learning and growth at the bottom. The success of the approach relies on tackling the problem both from the top down and the bottom up.

In the case of academic excellence, the strategic perspective level relates firstly to having graduates who are employed and satisfied in their work environment and secondly to having employers who are happy with their graduates. At student level, academic excellence depends on students having received a quality educational experience during their time at the institution and acquired useful and applicable knowledge. The next level, which considers how a quality learning experience can be implemented, focuses on the need to establish effective program and curricular development processes which reflect industry requirements. In order that the knowledge be relevant, Program Advisory Committees need to provide appropriate input and students need to obtain relevant work placements during their studies. The learning and growth perspective depends on having faculty

that are upgraded professionally and in terms of ICT. The supporting academic IT and administrative infrastructure must also be upgraded. Once these objectives have been identified, it is possible to select measures for implementation.

A scorecard developed for the graduate satisfaction perspective measured progress on the basis of well-defined graduate satisfaction Key Performance Indicators. Steady progress in this perspective is particularly important as a proportion of a college's government funding is determined by these KPIs. Again, the identification of graduate satisfaction as a goal is separate from the identification of measures to reach the goal. Objectives can be as diverse as faculty development and upgrading, IT infrastructure, library resources, program development databases and processes, renewal and accreditation, student satisfaction and success, and employer satisfaction. By completing the balanced scorecard exercise for all objectives, an inter-connected project schema is developed which shows how the broader picture can be managed without losing sight of individual elements.

II. The French Context

Serge GOURSAUD, Director, IUFM of Versailles, France; former President, ADIUT; former President, CCN IUT/IUP, France

I would like to discuss the salient features of short-term vocational higher education in the context of France. It should be noted that, in 2003-04, the most recent year for which data is available, the new European LMD (*Licence, Maîtrise, Doctorat*) organization had yet to have an impact.

Firstly, I shall try to define what short-term vocational higher education means in France. Then I shall consider the qualifications of students entering this educational stream and the organization of the system in terms of regulations and diversity. Thereafter, I shall consider the prospects of those who graduate from these institutions. Finally, I shall provide information on the cost of providing this kind of training.

1. Short-term Vocational Higher Education in France

Higher education in France, excluding health care training, which is very diversified, traditionally started with a two-year DEUG, followed by a one-year bachelor's degree or *licence*, then a one-year *maîtrise*. Students who study for an extra year obtain a masters and can, with three further years of study, obtain a PhD or *doctorat*. In addition to universities and health institutes, prestigious *grandes écoles* provide an 'Ivy League' type of training. Students at *grandes écoles* undertake two years of preparatory studies prior to following a three-year degree.

A number of specialized schools and institutes exist in parallel to this system, notably the University Institutes of Technology (IUT), which offer the BTS and DUT courses which lie at the core of French short-term vocational higher education. These are Level 3 training programs, equivalent to a baccalaureate plus two or three years of additional study and corresponding to the international level CIT5B. In 2003-04, 1 287 000 students were studying at university and 114 000 in IUTs. This low number does not take account of the fact that STS and DUT are also prepared in schools and institutes called 'Centres for the Training of Apprentices'. Training in the CTAs, which have 38 000 students, prepare students to Level 3, the same as BTS and DUT. Paramedical and social schools have 117 000 students but, as they are not regulated by the Ministry of Education, they are not included in the statistics.

Over the last fifteen years, the Ministry of Education has made great efforts to evaluate these sectors; the figures obtained by their statistical division are available on the Ministry's website. These statistics include very little information about vocational schools and clearly highlight the

problem of definition which exists in France. As Guy HAUG mentioned yesterday, it is important that we improve the definition of what is being studied in vocational higher education and find positive and accurate ways of describing the various sectors.

2. Educational Background

In 2003, 500 000 students passed the baccalaureate. The baccalaureate is available in three forms: general, technological or vocational. Technological baccalaureates have a 75% pass rate; vocational baccalaureates, which were not initially designed to lead to further studies, are passed by 20%.

Fifty-two percent of students who obtain a technological baccalaureate enter an IUT or STS compared to only 18% of those who pass a general baccalaureate and 13% of those who pass a vocational baccalaureate. Rather than looking at these bare figures, however, it is more interesting to consider what the students sought when they entered these institutions and how they performed on leaving them. The discrepancy in this respect is not particularly marked. The system is actually driven by the students.

3. Socio-Professional Background

Thirty-two percent of university students have less privileged socio-professional origins and 15% come from a lower-middle class background. Of students entering STS, 50% come from a less privileged background; the figure is 42% for IUT, 32% for CPGE, and 23% for prestigious schools. These figures clearly show that the socio-professional background of students has an impact on the training programme they choose to follow.

4. Regulation of Diplomas and Training Programmes

a. IUT

Unlike universities, which tend to be quite autonomous, University Institutions of Technology are steered at the national level and each discipline is directed by a National Pedagogical Committee (CPN). Regulations stipulate that CPNs, which define educational programs, are responsible for assessing the quality of the training courses provided, the success rate and the need for further development, and provide opinions on development programs and whether there is a need to open additional IUTs. CPNs can conduct economic and expert studies to monitor the progress of the IUTs and their contribution to economic activity.

Each committee is composed of researchers, teachers, employers' representatives, workers' representatives, and qualified experts. A national commission, which works alongside the government to coordinate the work of the various CPNs, makes recommendations on training orientation, decides on recruitment processes for candidates, assesses the availability of training in different disciplines, and creates links between teaching and research bodies. The National Consultative Commission comprises six teachers/researchers, six employers, six employees, a number of graduate representatives, and various experts.

b. STS and CTA

There is an important difference between IUTs and STSs, which are institutes for higher level technicians. Diplomas and curricula are designed and updated by professional consultative commissions, which also consider whether the programs correspond to labour market needs and

whether they will be sustainable in the face of changing market requirements. Although these training programs are established and designed at the national level, they are implemented entirely by local education authorities.

The second major difference between IUTs and STSs is their size: an STS usually has only around 30 students. Forty years ago, it was expected that, as IUTs developed, the STSs would close but this has yet to happen. Debate continues over whether they should be unified or whether there is a strength in retaining complementary systems.

Centres for the Training of Apprentices teach 38 000 students. These individuals are treated as wage-earners and they earn a salary for the work they undertake in companies as part of their training.

5. Graduate Results

DUT and BTS turned out 150 000 graduates compared to 121 000 for the DEUG. DUTs recorded a 90% cumulative success rate over the last three years for which results are available. It should be remembered that, when calculating the cost of providing a particular form of training, success rates are not considered. It is interesting to consider employment statistics five years, rather than two years, after graduation as this information provides a more stable long-term perspective. The relatively low unemployment rates which are recorded after five years clearly show that degrees, in whatever subject, are a good form of protection against unemployment.

When one compares students' intentions to their final length of study and their activity five years after graduating, it becomes clear that although more individuals study for five or six years than had originally intended to do so, the majority stick to their original plans. We should consider whether or not steering should be used to persuade more or fewer of these students to pursue further studies.

6. Cost of Education

On average, the cost per student is EUR 6 820 in universities, EUR 9 320 in IUTs, EUR 11 990 in STSs, and EUR 13 170 in preparatory schools. However, it should be remembered that averages can be misleading. When one considers the cost of training an individual from kindergarten to graduation, assuming each individual studies for seventeen years, the cost is EUR 117 250 for a BTS, EUR 111 910 for a DUT, and EUR 113 730 for a Licence. Clearly, there is no real difference in terms of cost between short-term vocational higher education and other educational systems.

III. The Chad Experience and African Issues

Djona AVOKSOUMA, Minister for Higher Education, Scientific Research and Vocational Training, Chad

I would like to start by thanking you for inviting me to attend this very important education conference. As you know, Chad has just emerged from a period of turmoil and needs to create a competent staff of teachers and workers who can accompany its development. I would like to present our experience of short-term training and education and to make some general comments about the applicability of Chad's experience to other central African countries.

It is difficult to generalize about the applicability of short-term vocational training to Africa on the basis of Chad's experience. Frequently, institutions are created in Sub-Saharan Africa and their value is only assessed once they are operational. Sometimes, due to the influence of development partners who encourage us to move in certain directions, we do not take the same approach throughout the region. For example, in Burkina Faso, we find the Ministry of Secondary Education

and Research but in Chad, we have the Ministry for Higher Education, Scientific Research and Professional Training; other names apply in other countries like Gabon and Cameroon. Furthermore, a diverse range of institutions have been put in place and information about them is not always particularly well communicated.

1. The African Context

A short-term vocational training system has yet to be built in Sub-Saharan Africa. Relative to the environment of globalization and recent technological advances, there is a lack of relevance in the programs. Girls continue to find it difficult to access training other than in IT, accountancy and administration. There is a lack of self-evaluation in establishments and a shortfall in the number of teachers, particularly as university professors often change direction during their careers and move into short-term institutes. Development partners sometimes fail to provide adequate support and economic data from western and central Africa often excludes international, or even regional, considerations. This lack of data makes it difficult to encourage international mobility within Africa and hampers researchers who wish to make clear comparisons between educational systems.

2. The Situation in Chad

It is difficult to analyze Chad's situation due to the political and economic context and the fact that further education systems were created relatively recently. Chad's government has developed a strategy for education and training which is linked to the needs of the labour market. As there was a clearly perceived need for professionalisation, the government did not, at first, consider creating short-term vocational institutes and instead focused on developing professional courses at the University of N'Djaména. However, the government soon realized that these courses did not provide sufficient capacity for all the students who wished to pursue further studies and, in response, a number of institutes were set up throughout Chad.

It was also realized that the needs expressed by economic and social stakeholders should be taken into account. Chad has recently started to produce oil. Although it is felt that this development in the oil industry should benefit natives of Chad, it is clear that the country's skills and competencies are inadequate relative to the needs of the sector. For this reason, we were obliged to bring in qualified guest workers from Malaysia and the Philippines. The traditional training and education offered in Chad does not meet our new economic requirements. It should also be noted that economic needs analyses have not been conducted nor are graduates followed to see how they perform economically. As existing higher education is inadequate relative to the development of the labour market, training courses must be diversified and expanded.

Finally, while demographic pressures mean that 12 000 extra people pass the baccalaureate each year, the University of N'Djaména only has capacity for an additional 2 000 students per year. Unfortunately, many people who want to pursue higher education are unable to do so.

One of the main reasons for expanding the availability of short-term higher education and vocational training is that protracted strikes in general education frequently result in great losses in terms of both time and resources. At present, students at the University of N'Djaména are on strike because their scholarship has not been paid. Sometimes, entire academic courses are lost; it is not unknown for people to be obliged to study for five years rather than three in order to obtain their degree. Classrooms are crowded and teachers are often unmotivated due to a lack of resources. In order to tackle this, special courses have been created which have only around 150 students; success rates in these classes are higher. However, this type of training has not become a priority,

primarily because investments in education must be profitable and short-term courses are, therefore, being favoured over longer courses.

3. Training Institutes in Chad

Chad has two universities: the first was created in 1971 with 700 students and now has 7 000 students; the second was created in 2003 with 2 000 students. Compared to other countries in Africa, such as Tunisia, this figure of 9 000 university students is relatively low.

In addition, six professional institutes have been created, of which three only eighteen months ago. These are the Institute of Sciences and Technology of Abéché, in the eastern part of Chad; the Institute of Agronomical Sciences and the Environment in Sarh, in the south of the country; the Polytechnic Institute of Mongo, in the centre-east of the country, which focuses on geology; the Institute of Moundou and the Institute of Educational Sciences in N'Djaména, which train teachers in literature and maths; and the Higher School of Applied Sciences of Bongor, which was created last year and will give its first degrees this year.

All of these public sector establishments are autonomous and decentralised but they offer a national curriculum and their board is presided over by the Minister for Higher Education. Only around 2 000 students are following courses in these institutions. It should be noted that needs analyses were not conducted prior to their creation.

4. Faculty

Most faculty members work as mobile researchers; for example, teachers from N'Djaména can work in Sarh or Abéché in order to share their knowledge with other institutes. There are only around 400 teachers in this sector in the whole country and very few professionals choose to teach in these short-term training institutes. Students specialize in various fields and take part in theoretical training as well as practical internships. Courses last for two or three years but it is not yet possible to judge the quality of the training which is delivered.

In addition to these public institutes and universities, private sector establishments provide higher education. About fifteen institutes have been created, around 90% of which are based in N'Djaména and focus on the tertiary sector. These also fall under the supervision of the Ministry of Higher Education.

5. Funding

Funding is an ongoing problem. The total budget is only 6.603 billion, despite an increase of 69%. At present, the government has decided to set up more institutes, including an oil institute in the west of the country and a virtual university which will provide support to the physical establishments and bridge the digital divide which exists in Chad. Even though progress has been made, in 2004, the resources allocated to higher education represented only 1.36% of the overall budget. In 2005, this figure will rise to 1.9%.

Of the 6 billion spent on education, 1.165 billion was allocated to higher education in 2004 and 2.08 billion in 2005. This is an increase of 79% and means that higher education represented 18% of the Ministry's budget in 2004 and represents 19% of the budget in 2005. This sum does not take into account long-term investments which are conducted by the State: infrastructure is built by and funded by the State to the tune of 2.6 billion. The figures quoted also do not take into account the cost of student subsidies and teaching salaries, which are another 30%. Student fees equal around 10-15% of total funds.

6. Future Prospects for Short-term Professional Institutes

We believe that this system for short-term professional training will be sustainable in the long term and that the government will continue to increase both the capacity of traditional universities and the number of professional institutes. Given the concern for quality, headcount growth should not exceed 150-200.

Flow management must be improved. In 2004, 25 000 candidates were presented for the baccalaureate of which 12 000 passed; the number of candidates is expected to increase to 30 000 in 2005 with 15 000 expected to pass. Despite this increase in baccalaureate graduates, we do not have the capacity to welcome them into higher education. Furthermore, our academic content is not yet aligned with labour market needs and we do not have information about the external efficiencies of our curricula.

The Ministry also needs to develop a strategy which promotes self-employment rather than training people to find jobs in the public sector or in established companies, which are few and far between in Chad. In my view, it would be a very valuable development if training in self-employment and entrepreneurship were to be incorporated in our education program.

Incentives need to be provided to improve resource allocation and management and ensure that social objectives are attained. Much remains to be done in terms of analysis and increasing stakeholder involvement.

IV. Question and Answer Session

From the Floor, Mauritania

Mauritania shares many of the problems highlighted by Djona AVOKSOUMA, particularly as we are also soon to enter the oil market. I would like to thank Mr AVOKSOUMA for speaking so plainly. Could you explain the strategy which Chad has adopted to tackle the problems arising from the lack of qualified labour in the country, notably in the oil sector?

From the Floor, Canada

My first question is for Sam MIKHAIL. Is there an evaluation commission at provincial level in Ontario similar to that of Quebec which assesses both quality and content?

Could Serge GOURSAUD please summarise the differences between the BTS and the DUT? Do the differences lie in scope or in content?

Djona AVOKSOUMA, do you believe it will be possible to persuade oil companies to contribute to the cost of training people in Chad?

From the Floor, Mali

Many African nations share the same problems as Chad. Our partners should listen to these challenges and help us to find solutions.

I have two questions. Would Serge GOURSAUD allow us to review the data he used to determine the cost per student? This might help us to improve our statistical work and higher education evaluation methods.

Secondly, will the longer version of Sam MIKHAIL's very interesting presentation be made available?

From the Floor

My question is for Serge GOURSAUD. The World Bank recently highlighted the fact that in Australia, some students who follow classical academic courses return to short-term vocational education to obtain professional qualifications. In France and the rest of the European Union, are graduates encouraged to return to higher education in order to obtain a professional vocational diploma?

From the Floor, Morocco

Sam MIKHAIL, is your project owned by you or by your institute? Will it continue to exist in the longer term or is it likely to disappear once you leave your post as Dean?

My second question is for Djona AVOKSOUMA. In Morocco, we greatly expanded our university from the 1960s onwards. Things tend not to happen gradually in our countries. You are fortunate to be experiencing an oil boom and I hope that you use that revenue to develop training. We experienced the same problem with our hydraulic power industry. When the industry was in its infancy we were forced to resort to outside experts and technicians, so we created special schools to train Moroccans.

Serge GOURSAUD, what proportion of students meet the aspirations they express when they first enter further education? You mentioned cost analysis from kindergarten onwards, but could you give us more details on how those costs are calculated?

From the Floor, Chile

Are there any areas in which improvements are more difficult to register? If that is so, how are those difficulties overcome?

From the Floor

My question is for Djona AVOKSOUMA. Are you aware of any Central African experiences of knowledge pooling, of centres of competence, or of regional training centres?

Eloi BAMBARA

I too have a question for Djona AVOKSOUMA. Institutes in Chad were created due to pressure rather than policy. You highlighted the fact that there are only 400 teachers in the country and that these teachers serve institutes across the whole country. As these institutes were created on a needs basis rather than according to a specific policy, how have you been able to train your teachers to meet the needs of the country and the labour market?

Sam MIKHAIL

In answer to the question from my colleague from Quebec, colleges in Ontario are semi-autonomous. The government defines key performance indicators and attaches funding to these. On this basis, a college can gain or lose several million dollars depending on its performance, and the government is able to direct and focus the energies of the colleges. The government defines five specific performance indicators: student satisfaction; graduate satisfaction; employer satisfaction; student success; and graduate employability.

In response to the question from my African colleague, we do not as yet have a formal website for the method but I am more than happy to share information with you. Please send me an email on this subject.

The answer to the question about ownership is that I was one of the key drivers behind the implementation of the balanced scorecard system but it has now been adopted by the governing council and it will be the driving force behind our planning process.

In terms of perspectives, some of these are difficult. For example, the learning perspective; we are dealing with unionised faculties. It is sometimes very difficult to demand performance from a unionised faculty which does not necessarily accept evaluation. There is a fine line between improving performance and creating political problems. The student perspective is also challenging. We welcome large numbers of immigrant students, many of whom have weak English. For this reason, we have to implement special programs to improve their English and their employability. We shape our programs to reflect the needs of our student body.

Serge GOURSAUD

BTS and DUT use different training structures and have different aims, as is seen in the number of specialities which are offered. BTS offers over 120 disciplines but DUT has only around 25. BTS is generally taught by traditional teachers but DUT is taught by a mix of traditional teachers, teacher-researchers, and corporate professionals. Finally, BTS examinations are national but DUT students complete continuous assessments throughout the year.

My cost figures are based on surveys conducted by the Evaluation and Prospective Division of the Ministry of Education, which are freely available on their website, www.education.gouv.fr along with their annual report on statistics.

In France, people who wish to continue their education once they have started their working life tend to do so through continuing education rather than full time studies.

In terms of costs, the service sector plays a much greater role in short-term vocational education than does the industrial sector. Education is a company that requires a lot of work, and much depends on how costs are assessed. Some of the costing differences we see come from factors such as whether teachers are employed on a full time basis, or are earning over time. My intention was to show that in a country like France, where more than 60% pass their baccalaureate, investing in short-term vocational education does not incur a considerable cost.

35% of BTS students wish to study for two or three years, compared to 50% of DUT students. Two thirds of DUT students go on to further education, including studying for vocational bachelors degrees. Much of the growth and orientation within the education sector stems from demand from students themselves.

Djona AVOKSOUMA

In answer to the question regarding the lack of a qualified workforce in Chad, every country must develop its own strategy to respond to the labour market which develops within its borders. I do not think that Chad has a specific policy to develop oil exploitation. Wars and social instability have been present in the country ever since its oil potential was first identified in the 1970s, and therefore the exploitation of that oil has not been well prepared for. Large numbers of oil workers in Chad come from other countries. Now, however, we are sending people to Malaysia and France to be trained in the oil industry with the hope that we will be able to develop a home-grown professional workforce.

My colleague from Quebec asked whether the oil companies are involved in vocational training. In fact, almost the opposite has happened. Oil regions in the south are staffed by thousands of ex-teachers who have left the classroom in order to pursue the higher wages on offer in the oil industry. When the N'Djaména University began to develop professionalised training programs in electro-mechanics, 80-95% of graduates were immediately recruited by oil companies, regardless of the fact that the companies were not involved in providing that training. The oil companies were not included in negotiations when the training programs were first posited, and now it is too late.

In response to the question about whether regional centres were being developed in Central Africa to pool resources and meet training needs; in principle, African countries are grouped in economic communities. Experts and heads of state meet to discuss the economic problems faced by each community. The problems faced are related to financing and the availability of teachers. Most training programs are aimed at national labour markets, and not at regional ones. Our policy is to try to attract teachers from neighbouring countries but this is not done on a systematic basis, and resources are not always shared.

Society is exerting a lot of demand for higher education in Chad, as can be seen by the development of private institutions. There are currently around 50 private institutes in Chad. These were not developed in a coherent fashion and their governance has not been adequately prepared. The statute of these institutions and training programs has yet to be defined but, once complete, it should take account of the role played by the private sector in providing short-term vocational education.

There are around 400 teachers in the higher education sector in Chad. This is ridiculously low but, fortunately, we are recruiting large numbers of new teachers and, thanks to strong political will, we expect this to continue.

June 8th 2005

F. Workshop and Roundtable Reports

Chaired by Juana SCARSI GUZMAN

Jacques MAZERAN, Senior Specialist in Technical Education and Vocational Training (ETFP), France

This morning's session differs from those that have gone before, as today's presentations will consist of feedback from yesterday's roundtables and workshops. I would like to thank Juana SCARSI GUZMAN for accepting to chair this difficult session.

Juana SCARSI GUZMAN

The debate after the presentations will be very an important one in terms of enriching our experience. Three workshops took place simultaneously yesterday. Josette TRAVERT will report back on the first of those.

I. Workshop A: Problems and Solutions in the OECD Countries With Respect to "Employment" and "Social Demand"

Josette TRAVERT, Academic

The objective of this workshop was to deal with issues and solutions within OECD countries regarding the correlation between employment and social expectation.

Roger EYCHENNES talked yesterday about IUTs and international standards. The setting up of such a framework is an issue in many countries. Two examples that arose were:

- Producing yoghurt in Mexico and Paris requires the same skills, responsibilities and decision-making at specific times;
- Aeroplane maintenance should be based on the same skills no matter where it happens.

1. French IUT Landscape

Roger EYCHENNES reported on the IUT experience in France over the last forty years. Such a length of time allows understanding of the strengths and weaknesses of the IUT experiment, and permits legitimate explanation of how issues have been overcome.

IUT success is due to certain key factors.

- The first of these was the strong political will, based on socio-economic needs, that existed 1950s France. Because of the centralisation of education in France this political will was initiated by the state, but was also to be found in the business sector and in some university faculties. Those faculties ended up by convincing themselves of the validity of the project, and driving it. This shared political will must continue in the long-term. Both the Tunisian and Mexican examples also demonstrated lasting political will.

- The second key factor is professionalisation. Partnerships with businesses enable macro-economic, long-term, global visions. Thanks to these partnerships, trade or skill competence is being brought forward, which enables the gradual co-construction of training programs. That word co-construction is crucial for IUTs and other professional bachelor degrees.
- The fourth key factor is that IUTs are now within the LMD or 3-5-8 system, through the setting up of professional bachelors. Within this framework ECTSs were implemented. Modularisation and breaking down studies into semesters both help with linking universities and the IUTs. They also contribute to the reciprocity between the two types of institution, which in turn helps students define personal professional projects. Being part of the 3-5-8 system should also help facilitate and promote access for different types of students.
- The IUT program trains graduates at Bac+2 and Bac+3. The system must be closely monitored and steered to avoid drift and to ensure consistency. Consistency and steering are the responsibility of the IUT networks, directors, and commissions, for instance the IUT's National Consultative Commission. Consistency and steering show that IUTs have become leaders. They were set up in medium and small sized towns and cities, and there are now 114 IUTs with 650 training departments. We must maintain the consistent, positive and social image that IUTs have created.

Based on this analysis of the IUT environment there is a future possibility of setting up what we have called TSUI.

- The T stands for technician. We envisage an inductive, pedagogical approach encompassing core and skill-based projects. Partnerships with businesses would mean businesses taking part in both learning and management boards.
- The S stands for superior or higher education, which guarantees initiatives that teach decision-making in a complex environment, the ability to manage horizontally and the ability to manage teams.
- The U is for universities, because training backed up by research and high level specialized equipment is very important.
- The I stands for international, meaning international recognition, job mobility, training sessions and exchanges.

2. Summary of the Debate

There are several questions around the future setting up of TSUI. For example around training in engineering. There is as yet no answer to that question, but the solution lies in the sharing of experience.

Other questions arose around professional integration and the need to specify indicators. The ensuing debate was most interesting. We heard about experiences from many countries, including Mexico, Tunisia, Madagascar and Spain, all of which have different systems with some points in common. Some of the systems are included in the country's university system, but that is not always the case.

The workshop was there to answer the needs of OECD countries but the model proposed could not be implemented as it stands in countries undergoing specific difficulties. In France, for example, there is a need to specify the duality between BTSs and IUTs. BTSs are more focused, and the main difference between the two is the number of specialities: 25 within the IUTs, and about 100 within the BTS system.

Professional participation within the faculty stands at around 30%. Some of those professional teaching staff hold part-time positions within the professional sector, and simultaneous part-time positions within the IUT.

The budget is centralized and yearly. There are several resource streams: the government, the mandatory learning tax from businesses, applied research services, and continuing education contracts. IUTs were set up forty years ago by the government.

Concerning the relationship between employment and training there is a need to develop highly specialized jobs and niches, but there is a risk of setting up niches that fail to answer needs in the labour market. Another problem encountered with the setting up of professional bachelors is drift; the IUT network must take care not to succumb to this problem. When a new job emerges we should try to link it to an existing speciality within the training system.

Another issue is that IUTs and training sessions operate within a model. This is not the Anglo Saxon model, which is built on general education prerequisites that are completed by technical education classes. Instead the French system is a mixed one, which combines professional and other training. The model is considered in France as a driver of social lift, as it promotes other types of ability.

IUTs are part of the university system, whether or not they are inside the university structure. They are happy to be part of the system, as long as they are not crushed by it. Their main objective is to train middle class, highly skilled professional executives. The recruitment of teachers, the budget and the presence of professionals in network are all issues.

The final, controversial question is why do 70% of students pursue further studies after graduating from an IUT? If the students need a further diploma, is the IUT useful at all? It depends on the types of degrees pursued. The potential of furthering their studies is an incentive for many students. There are also contextual reasons for pursuing further studies; IUTs are 40 years old, they are very different from the way they were originally, and are now part of a non-frozen system.

The TSUI should be built in partnership, clearly defined and clearly constructed.

II. Workshop B: Cost/Efficiency Analyses of Short-Term Vocational Higher Education in Emerging Countries: Perspectives

Bernard GROS, President of IUT Consultants

The countries represented at the workshop were: Mexico, Peru, Bolivia, Angola, Mali, Syria and Morocco.

We began the workshop with an introductory presentation from Chile. There is a free market in Chile for short-term vocational higher education. On the basis of this presentation we began a debate about the advantages and disadvantages of a free market for education. We identified some possible solutions for the drifts in the market, and looked at ways of guaranteeing the efficiency and equity of the system, and encouraging its positive evolution.

1. The Chilean economic context

The presentation from Chile is worth summarising here, because it underpinned the debate. It was about the challenges of higher education technical training. In order to understand those challenges, we must first understand the economic context. The economy is undergoing sustained growth. Several free trade treaties are being prepared, notably with the European Union, the USA, Canada, and South Korea. Chile is also a member of APEC.

The number of students is enlightening: it has more than doubled in 15 years. Training programs for higher technicians include 106 000 students, equal to 14% of the student population. They are taught in professional institutes, universities, or technical training centres, which provide 2-year courses. The system has been characterized by great heterogeneity.

Some of the characteristics and failings of the Chilean system are as follows:

- A lack of co-ordination between secondary and further education;
- Training programs are not viewed very positively by society;
- Great heterogeneity of quality;
- A lack of steering at the national level;
- Training programs are not sufficiently linked with the economy;
- State funding is limited.

2. The education picture

Higher education in Chile is private, and not free of charge. This is not necessarily negative, as long as private institutions do the work well.

There are two programs in Chile looking to solve some of these problems: Chilecalifica and Mecesup. The principles and objectives of these programs include equity, competitiveness, employability, and the integration of technical training as a system of permanent education. The programs also aim to improve quality through financial support from the state, obtained on the basis of competition in which institutes or groups of institutes take place.

The Chilean system is currently undergoing several changes. The state now provides institutions with financial support, as long as they accept an accreditation, which involves a quality assessment. A network of partners is being set up, with secondary schools, universities, technical training centres, companies and groups of companies all involved. One purpose of the network is to get all those actors used to working together. Another is to set up and manage technical platforms, which can be compared to the French regional centres for technology transfer.

The workshop debate quickly focused on a free market of education versus a non-free market. With a free market comes competition. This can be a positive force, but often leads to a decrease in costs within a program, and sometimes to a decline in the quality of both training and teachers. A second drift within a free market is that institutions meet the needs of the public, not of the economy. A third drift is the problem of development coherence, which does not exist within a free market.

Chile has found several solutions to these problems. The state now provides financial support to the partners of the education sector, on the basis of competition. Institutions respect quality criteria,

evaluation procedures and global processes such as the Bologna process. They also undertake to create networks in order to improve the coordination of the system through better steering.

III. Workshop C: Efficiency of Solutions in Countries with a Difficult Economic and Social Context; Ideas for the Future

Jean KOULIDIATI, Vice President, University of Ouagadougou, Burkina Faso

The workshop focused on those countries experiencing economic and social difficulties, particularly in Africa.

1. Difficulties Experienced in Sub-Saharan Africa

Sub-Saharan Africa pledged to work towards education for all. Most of the countries in question experience great economic problems, political and military crises, and budgetary difficulties. These problems reduce the countries' potential to develop short-term vocational education, which has a reputation for being costly.

To debate short-term vocational higher education in Africa, we must first take into account the level of education, and the specific problems related to the development of higher education. Short-term higher education in Africa straddles levels 4 and 5 in the classification system, which causes problems when comparing the level of short-term vocational education across countries. In addition a private sector is being developed, which is often left out of national statistics.

A number of indicators should be born in mind. School life expectancy is 7.8 years in Africa, compared to a world average of 9.3 years. The average duration of higher education in sub-Saharan Africa does not exceed one year. Within secondary and post-secondary education, supply does not necessarily follow demand. Higher education in Africa only concerns 10% of the population, compared to a 25% average. However, these averages hide the large differences that exist between African countries.

2. New Challenges and Issues

Globalisation rhetoric suggests that new economic challenges create both a need to raise the level of knowledge, and greater interest in these short-term vocational training programs.

Market changes require a flexible and multi-skilled workforce, but in countries in which the economy is largely dominated by the rural sector, education sectors are very dilapidated. Cost efficiency analysis shows a strongly negative cost/efficiency relationship.

In the 1990s new orientations were developed, greater contacts set up with corporations, and financing systems overhauled. Enrolment between 1998 and 2003 has remained constant at around 8%.

The diversification of higher education is a sign of renewal. The sector is restructuring, with the development of private higher education and short-term vocational higher education. That goes hand in hand with the preparation of students to become entrepreneurs.

Short-term vocational higher education in sub-Saharan Africa faces some specific challenges. There is a need to meet the evolution of the labour market and demands of society. Internal and external efficiency need to be strengthened. The articulation of both secondary and post-secondary education must be increased. The challenges raised by the development of the private sector must be addressed. Access for less wealthy students needs to be improved. Short-term training programs should be diversified. The dialogue between different ministries with a short-term

vocational education remit must be improved. The public offer needs to be strengthened, and higher education should be used as a level for promoting local development.

3. Some Questions Still to be Answered

The economic situation is very bad in all of the countries we discussed, but what can ministries do to encourage solutions? We agree that we need to restructure the ministries and to increase their capacity to welcome students, but what needs are we trying to meet? Are we training students for the civil service, self-employment or the private sector? The labour market in Africa needs to be assessed, but should that assessment take place at national or regional level? The development of short-term vocational higher education meets social demand, but that leads to the development of the private sector, which can in turn result in a decline in quality. We need mechanisms to control that development. In certain regions of Africa the Council for African Education could be entrusted with that task.

What are the challenges for education in Africa? Who should be in charge of deciding which diplomas are needed? Private higher education has emerged as a solution to the sector's challenges. The private and public sector must, therefore, engage in positive dialogue.

We are seeing the evolution of the market. Employers have created their own training systems to meet their own needs, whereas the state has created universities. There is a need to develop short-term vocational education. We have not addressed the question of student contributions towards their education. Is there a cultural reluctance in French-speaking African countries to pay university fees?

Our workshop concluded with questions, and not with solutions. We must continue to debate the challenges, the offer of the private sector, and the role of short-term vocational higher education in the rural sector.

IV. Roundtable A: Can Information and Data Related to Services be Treated as Those Related to Industry?

Benoit MILLOT, Lead Education Specialist, World Bank

The topic debated by this roundtable was whether we could deal with training sessions in the services in the same way as those in industry. Convergence and divergence. Is this really a core issue?

There was a diversity of conflicting paradigms. We dealt not with topics but with study fields such as the engineering of education, philosophy, behavioural psychology, labour sociology, the labour economy, and many semantic issues.

1. The Legitimacy of the Subject

There are two main issues within this topic. One is the development of private initiatives. This is linked to lighter investment and the high profitability of the tertiary sector. The second is that there are better links between tertiary training and the professional environment than between technical training and that environment, thanks to the horizontal structure of the tertiary programs. Are we drifting towards a more general education and can we set up a training curriculum?

The discussion was complicated by the fact that all of that is irrelevant in Chile. In Chile, technical higher education is mainly in the private sector, with an almost total lack of public monitoring authorities. If the objective is improvement of the educational system, it becomes relevant. The

Chilean representative made two important points: the first that the part of services in the industrial sector tends to increase, blurring the boundary between industrial technical training and tertiary training. The second point was that, as shown by the telecommunications industry, companies know how to adapt their training offer.

Mokhtar ANNAKI spoke to us about the development of intermediate level training in Morocco. Tertiary training is a late arrival in Morocco, and the system is on the way to becoming highly professionalised. The slowness of public institutions to meet needs equals an opportunity for the private sector to enter market niches. Service to clients must be improved no matter what the sector.

2. Points of Consensus

The debate remained at a rich conceptual level, which is difficult to summarise. However, six strong points emerged:

- Point one: soft industrial activity is a growing global trend. Whether the subject be hotels, maintenance, or flowers, there remains a great need for marketing and quality.
- Point two: there is a need for consistency. Technical training is in increasing need of a tertiary dimension. This leads to a question: what are the prerequisites for tertiary training to be included in general education?
- Point three: we need to set up a common platform, so that this technical training can be successfully integrated into the rest of the educational offer.
- Point four: this is a very diverse and inconsistent area, which ranges from audit to insurance through greetings and hairdressing. A wide range of activities is covered.
- Point five: the debate revolving around tertiary training sessions needs a wide scope of activities. Should we define families of activity, or do we need a great variety of training sessions or offers? The two key words here are flexibility and adaptability. Adaptability, that is, to technical innovation and to needs. The issue then is that demand is not clear. The private sector is not legible and does not cooperate.
- Point six: the industrial sector is more adaptable for service providers and businesses, which often set up their own training centres. This is a very lucrative market, linked to adaptive capacity. The need for intermediate technicians will increase continuously. The core of the pyramid, with workers at the base and executives at the top, will only swell. My colleague working for the World Bank said that actually this core is just a bubble. Instead of a pyramid with an increasing number of higher technicians at the base, this population is restricted. At the top are highly qualified decision-makers, and at the bottom a less-qualified worker population. The problem of the pyramid is not to do with the number of employees, but the wage level.

The question about convergence or divergence between the two different types of training did not appear clearly, but if they are not converging, they are at least complementary. The boundaries between the two types of training are becoming diluted.

V. Roundtable B: Hiring Policies and Skills Management for Mid-Level Executives: Short-Term and Long-Term Training; Validation of Work Experience; Age and Gender Issues in Hiring; Internal Promotion

Michel VILLAIN, Project Manager, Technical Advisor to the President, Nouakchott University, Mauritania

Our first presentation was from Christian FORNARI, Chief Executive Officer of a Lyon-based company. The second was from the head of technical and technological training at the Ministry of Education in Bolivia. The third presentation was from Cyntia ANGULO, director of EDF in Mexico.

1. France

In France there is a medium and long-term need for mid-level managers. The existing vocational bachelor training systems are IUT and STS. Companies that recruit range from very small to very large corporations. The mid-level manager himself differs depending on the size of company he is hired by. A mid-level manager for a large company will be a middle manager with some responsibility and a good level of scientific knowledge. In a small or medium-sized enterprise the mid-level manager will be the right hand man of the company's manager. In general, though, we can identify a profile of someone with good technical and practical knowledge, and capacity to adapt and evolve. In the tertiary sector these people are recruited at Bac+3, whereas in the secondary sector they are recruited at Bac+2.

The professional sector contributes to the design of the content of training sessions. There is also a genuine race for study; two thirds of students pursue further studies. This means that companies do not necessarily get the best graduates. According to a survey carried out in January 2004, the profile of current graduates shows people who are likely either to create their own company or to take over an existing one. There are no specific problems for female graduates in France.

2. Bolivia

The social and economic characteristics of Bolivia make the situation very different from that of France. Bolivia suffers from great poverty. Many people start working at the age of 12, and the working population is large. There is an education and qualification deficit; only 2% of the population go on to higher education. According to the standard ILO pyramid, 2% is low.

Half of the country's companies are very small. As a consequence demand for graduates is nearly non-existent, and companies would rather train their own employees. One of the solutions for graduates is to become entrepreneurs themselves.

Training takes place in higher technical institutes. The mid-level manager will have some general training, will be ready to work, and ready to become an entrepreneur.

A dialogue process has begun with companies. A booklet has been produced which outlines who produces what and where. This allows companies to adapt their training offers according to the region in which the institute is located.

There are problems concerning female graduates in Bolivia. On average, women do not attend school for more than three years in rural areas and five years in town. The offer for women is therefore very different, focusing on literacy courses and basic skills. We hope that a majority of women will be able to reach a higher level of education, but we need to do much more.

3. Mexico

There is a need for mid-level managers in the short- and medium-term in Mexico. There are training institutes, which are technology universities. There are both SMEs and large corporations. Mid-level managers must be multi-skilled, flexible, mobile, have good communication skills and be rigorous.

Similarly to France, professional bodies take part in designing training products. This goes somewhat beyond what happens in France, however. Companies place an order with the training institute, telling them that they need a certain number of a certain type of graduate. They place the order, and obtain the product. The graduates who have been 'ordered' are dynamic, open, multicultural, and tend to progress with the company.

4. The debate

There must be coordination between the training offer and the labour market. Having too many degrees is problematic. People should perhaps start by working then resume studies after having worked for a while, according to the needs of the company in which they work. There is therefore a need for internal promotion within companies. The downside to this phenomenon of being over-graduated is that people with multiple degrees are doing the jobs of higher technicians, and the higher technicians are doing the jobs of unskilled workers. This costs companies a lot of money.

It is important to have a quality training offer: trainers must themselves be well trained. This field needs some more work. Another point was raised around strengthening the institutional nature of technical education.

Reflecting back on some of the issues raised by workshop A is the question of student profiles. We teach our students a lot, but not how to think and reason for themselves. We need to help students to develop multiple, cross-cutting skills and abilities. We also call for a debate on women and their insertion in sectors that are traditionally non-female, in particular in South America and in Africa.

Is there a minimum profile for mid-level managers so that we can all work from the same basis? There are questions around salary and wages. People who are not well paid often go back to college and then find themselves over-qualified. There is no miracle solution, but if the political will is there then perhaps some profiles can be raised and improved upon.

We tried to define a minimum profile for an international mid-level manager. This brings us back to the TSUI mentioned earlier. The profile includes good technical and practical knowledge, and the capacity for adaptation and evolution. People must be hard working. IUT students in France attend 1 800 hours over the two years of their course, plus internships. They need to continue to work hard in the professional environment. Finally, people should be able to work in multicultural teams.

We have seen that some of these mid-level managers are likely to create or take over a company. We considered a minimum profile for a person in that situation. He or she needs to have previous work experience in the same sector. He needs good technical and practical knowledge, good management knowledge and skills, good business sense and must be able to lead a team.

VI. Question and Answer Session

André Gauron, France

I would like both to express a wish, and to correct something that has been forgotten. First of all, we should not oppose too bluntly the French and Chilean professional short-term education

markets. The Chilean market is a very specific one, and what is interesting in the French experience is the particular combination of private and diversified offers. The French experience is more than just IUTs. Secondly, I would like to add something to Benoit MILLOT's presentation. We heard during roundtable A that the employment market in some OECD countries and beyond is very frail at the moment, and that young people are increasingly aware of it. This leads to new requirements for short-term training. Solutions such as short-term training, additional training and supplementary courses for adults could lead to a continuing educational offer, which would enable people to update their knowledge throughout their professional lives.

From the Floor

I have been troubled by the absence of the private sector from this conference. The evolution and growth of short-term training needs stronger input from the employment sector. The Deputy Minister of Education's comments yesterday concerning the private sector, and his perception that it is not cooperating, also troubled me. Unless we go out and seek that dialogue, the whole effort is one-dimensional. We are all educators or public employees with more or less stable careers, but the private sector faces different problems and we need to know more about them.

I would also like to mention that the private sector in North America and Europe is changing drastically. The decline of manufacturing and the growth of the service sector must shape our agenda much more than it has done in the past.

From the Floor

Yesterday Christian FORNARI, who comes from an SME, and Cyntia ANGULO, who comes from a major company in Mexico, made a comment about the importance of mastering a second language. They meant English. What is your opinion on this? Why have we not talked about it? Is it because the short-term higher education population does not need a second language, or because they already master one? Should English become mandatory? Should we define some common standards? Through the mobility programs we have with France we should make an effort to teach French, if we want our students to perform well. If they wish to graduate with a professional bachelor's degree, they must master the French language.

From the Floor

Regarding international higher technicians: it is very important to take advantage of this, but we know that people move between different continents, and that is difficult. Some countries are less advanced than others in this area. In some countries there are many higher technicians and in Africa, for instance, we lack such personnel. Until recently we would send our people abroad to be trained as engineers or top managers. So, there are huge differences according to where you are. Secondly, it is difficult to find a sector or market in Africa where the companies are well structured. The people have almost no education, so meeting immediate, let alone long-term needs, is very difficult. Entrepreneurs are not always willing to commit to training, and so perhaps rotational training or continuing education is the future for Africa. Some reforms have already been launched; the state can then set up higher institutions, asking the private sector to be part of the funding for such offers. This is an opportunity for Africa, which is a fact that we should promote.

Roger EYCHENNE, Deputy President of Vocational Training, IEU, P Sabatier University, Toulouse

I would like to correct a double bias. The first is that in the French model IUTs represent 15% of short-term higher education and BTSs represent 30%. We have not talked about things such as sales and management schools or healthcare. The private sector represents half of short-term education. Our system is not so very different from that which is found in other countries; the public part is well structured, but there is a private part to it. However, the Ministry of Education is not interested in this.

The second bias is that our vision is industrial. The health and social aspects of training are being developed. We should be wary of limiting short-term higher education to hard technical or technological training. A whole sector is developing in an unstructured way, and the ministries are not interested. For instance the health sector depends upon the Ministry of Health, but the Ministry is not interested in the growth in training in this area. We have difficulty entering this new sector.

From the Floor

There was a rich and vivid debate during roundtable A, partly because despite strong interest the areas were not clearly defined. The two models presented, IUTs in France and the Chilean experience, are based on different mechanisms. There are many other types of structure.

The system is a frail one. Because we are unable to predict the demands of the private sector, being able to return to university throughout one's career relies on the modularisation of the training offer. That should allow us to match the needs of the economy. This is crucial, because countries having difficulty defining their training offer should be able to find a way of gradually adapting that offer to demand.

From the Floor

I have been waiting to find a comparative study between short-term technical higher education in Europe. Such a study would be very useful for those of us coming from developing countries.

Reply From the floor (Sylvie BONICHON)

I have made a comparative study of 40 countries in Europe for the European association representing professional education within the Bologna process. The study only exists in English, but I can make it available for you.

Evelyne FOI, Canada

Mine is a semantic comment. In Quebec, and I think in North America in general, short-term training means continuing education. For us short-term training means a two to six month customised session, which we call a collegial studies certification. These are implemented or developed in response to a specific need expressed by the labour market. A technical degree requires three years, which cannot be classed as short-term.

We talked about certain streams being part of the university sector or not. We do not belong to the university sector. We are in fact pre-university sector. Our system ranges from kindergarten to PhD level. We do have some problems, but we say that higher education is a first stage of university training. We are outside the system but still a part of higher education. We are the first stage of higher education.

Roger EYCHENNE, France

When I put forward the notion of a higher technician I started from IUTs. My purpose was not to make an opposition with anything, but to enhance the clarity of the presentation. The purpose of this conference was to define some common characteristics of short-term vocational education training programs. If we want our training programs to meet the needs of the market, I believe that there are some common characteristics. The debate should be about people and skills, and structure should be secondary.

Josette TRAVERT, France

I would like to add to Mr EYCHENNE's comment. Throughout the conference and the workshops we have not tried to oppose the public and private short-term streams. Nor have we provided a solution to the university versus non-university debate. The purpose of the conference was to present a diversity of answers in this field. The aim of workshop A was to debate the solutions that OECD countries have found. We are fully aware that those solutions need to be adapted before they are applicable to other countries, which is why I ended my presentation with the notion of evolution, and an adaptable model.

With regards to the standard: it is not a model, but a framework for debate. All we presented were elements of our thinking on the characteristics of short-term vocational programs.

To answer the lady from Quebec: it is true that in France and in many countries what we mean by short-term training programs are Bac+2 or Bac+3 courses. That was the framework in which the conference was defined. The landscape is diverse. The IUT experience could serve as a basis for reflection, but it is not the only experience that exists. The analysis was rich, but we cannot deal with all of this diversity during this one conference. We can, however, identify common objectives and characteristics for these training programs. For instance reference frameworks have been presented, and we have analyzed what skills are necessary for these training programs. These are minimum frameworks, but on the basis of these common elements we can build different and diverse models.

In reply to the comment about social and health streams: one of the workshops talked about the opposition between secondary and tertiary sector training programs. We have seen that there are no longer huge differences between these programs, and in fact they have many things in common. In Europe we have both tertiary and secondary training programs side by side, but there is no real opposition between industrial and non-industrial training programs.

I would also like to comment on women. We have said that in the OECD countries and in France in particular that women do not face any problems in entering the labour market. However, we should not forget that women remain concentrated in a limited number of sectors. There are few women in the heavy industry, electronics and information technology sectors, for example. This is not an acute a problem in Europe as it is in Africa or Asia, but it does still exist.

Jean KOULIDIATI, Vice President, University of Ouagadougou, Burkina Faso

It is true that in most sub-Saharan African countries the informal economy prevails, but there is also a more structured economic sector. The people working in it are usually illiterate, but they can make a lot of money. They have the investment capacity for short-term vocational education, but we need to convince them of the need to invest.

Our economic operators tend to listen more to Europe than to Africa. This contradiction needs to be confronted. In Burkina Faso, for example, we have illiterate entrepreneurs who have invested a

lot of money in the setting up of short-term vocational training programs. The chamber of commerce and several French engineering schools supported them. When we tried to reproduce the project at the national level we were not listened to. Somebody from Rouen in France convinced them of the validity of the project.

There cannot be development in Africa without the kinds of strong public private partnership that are being encouraged everywhere.

Bernard GROS

I would like to react to the comment made on the opposition between the private and public education sector, in reference to workshop B and the cost efficiency analyses of emerging countries. Our workshop did not oppose the private and public sectors. We used the very enlightening Chilean example. Based on this we tried to analyze the advantages and disadvantages of private sector education, but without opposing the two. When an education market is fully private there is a lack of coordination and of quality control. This is not about building a public sector for higher education in Chile, as that is not something that Chileans want. Instead they support institutions on the basis of competition. Private schools undertake to set up networks, to follow a number of quality criteria and to accept evaluation and assessment. There is no real opposition between the public and private sector; they are two very different systems.

Juana SCARSI GUZMAN

I think we can all agree with what has been said, but I would like to add something to that. It is important that we leave this room and conference with clear ideas. We can now answer the last few questions that were posed.

Benoit MILLOT

I do not think that we have erected any barriers over the last few days; on the contrary, we have been breaking them down. I agree that the opposition between the public and private sectors no longer makes sense. Partnerships between the two now exist, and nor is the opposition valid in economic terms.

There is another opposition: that between short- and long-term training. Continuity between the two now exists, and there is no reason to continue opposing them. Nor is there any continuing opposition between secondary and tertiary training, or between university and non-university education. Thanks to this seminar, we have been able to break down those barriers.

Regarding employment: even in sub-Saharan Africa the state is no longer the main engine of job creation. Also true is that training in itself does not create jobs. Self-employment has been mentioned a lot, but I am not sure to what extent this is a hope, or what it represents in terms of job creation. Finally, the challenges for short-term vocational education are different depending on whether the country in question is experiencing full employment or under employment.

Michel VILLAIN

The usage and mastery of a foreign language is an important issue. In my presentation I spoke about the transversal aspect of knowledge. This includes communication, which is of course linked to languages. Here and in some African countries it is French, in Latin America it is Spanish and English. The acquisition of a second language is never forgotten in the training process.

Hernan ARANEDA

Short-term technical training in Chile is in the hands of the market. This is not necessarily a positive thing, because the market is opaque. The cost of private investment is important, and this type of training is aimed at the poorer end of the population. We should combine this market orientation, which generates a great diversity of offers, with information that is readily available. This would allow both students and their families to make informed decisions about investing their resources.

Virginia ASTORGA ZANZI

In Chile there is no breakup between the private and public sectors. The state should play a key role in motivating families and students to join the technical training sector, because in Chile as in other countries this type of training suffers from a negative image. Low wages in the sector mean that people do not opt for it readily and freely. We should build up a story around this so that training is taken seriously. In Australia and New Zealand an entire, country-wide system of communications has been put in place so that society understands the importance of short-term training. The labour market should also be made aware of the necessity for such training.

Gustavo CACERES

Jobs that require technological know-how require large investments. The only place offering technical careers is the private sector, but the private sector does not cover the costs of such investments, as they are only investing to make savings. The state should invest in this type of training. This is the situation in Chile, where the state is a leader in the setting up of the offer of technical training.

Jacques MAZERAN

I realize that I did not give any explanation to Juana SCARSI GUZMAN, our chair, about the choice of panellists. They were not chosen at random; the distribution is worth noting.

Josette TRAVERT comes from the university sector, and is extremely active within the IUT network. She led education in the Grenoble region, and was president of the academy. She has also taken part in many projects, for instance in Tunisia.

Jean KOULIDIATI is Vice President of the University of Ougadougou, and is in charge of relationships between the university and the professional sector.

Bernard GROS is Chairman of IUT Consultants, which was implemented by the IUT network in order to create foreign contacts.

Benoit MILLOT is a tasks team leader at the World Bank, and is widely traveled, particularly in Africa.

Michel VILLAIN is a Project Manager, and is here representing the Ministry of Foreign Affairs in Mauritania.

We selected our panellists very carefully, and I would like to thank them for their very efficient work.

G. General Summary and Closing Remarks

I. General Summary

Chairman: Albert PREVOS

Albert PREVOS, Director, CIEP, France

Module eight will be a general summary, presented as a two-voiced debate by John OXENHAM from Great Britain, and Jacques MAZERAN.

Jacques MAZERAN, Senior Specialist in Technical Education and Vocational Training, France

John OXENHAM, Senior Specialist in Education and Vocational Training, UK

(JM) Our presentation is in three stages. During the first we will tell you what our frustrations have been during this conference, and call upon you to tell us yours. During the second we will talk about what we have identified as specific important characteristics that have emerged from the debates and presentations from the past few days. The third part of our presentation will deal with what in our opinion are major issues.

1. Questions

What is the problem?

(JM) Having listened to you all during the past few days, the question arises as to the point of the present conference. Indeed it seems that there are no real problems. We have heard from rightly proud people about efficient systems, for example French IUTs, Mexican technological universities, Tunisian ISETs and Korean technological institutes. This is very positive, but is it possible that no problems or difficulties exist? Perhaps we have simply refused to solve the problems that do exist; perhaps we have avoided those issues. Naturally I am being somewhat provocative, but John and I have been somewhat frustrated by this. Happily, the Minister of Chad was here to remind us that he has many problems. Thanks to that presentation and to what our African and Bolivian friends have told us, we have come to realize that there are indeed major issues and problems.

Thus it is possible that we not have sufficiently analyzed real problems to seek solutions.

Is it the labor market's fault?

(JO) I believe so strongly in the necessity of a second language that I have tried to learn nine of them. I am a jack of all trades and master of none; that is my personal frustration.

This particular subject was brought to my attention by the presentation that counterposed social demand against the requirements of the labour market. There was actually no counterpoint, but simply the real fact that social demand was very obedient to the demands of the labour market.

Zambia offers an illustrative example of this. Many years ago the government was a major employer, and everybody employed by the government was classed as a civil servant. That meant free housing, free healthcare, and a pension. In 1961 the government felt that the civil service was far too large, and called for two categories of employee: the bureaucrats in one category, and the contract employers such as builders and carpenters in the other. The second category would be given higher salaries, but no benefits. Within a year the trade schools had no pupils. The government said that the people did not want to work, but it was the government that had altered the labour market, thereby changing the demand for education. It was the government, not the people, that was irrational.

A second example comes from Kenya in 1980. The ministry of agriculture was having difficulty recruiting. They wanted people with a full secondary education, with passes in English, maths and science. I wondered about an O-level pass in agriculture, but the ministry was not interested. They wondered why people in secondary schools would not study agriculture; it was simply because the ministry said that it was not a relevant subject for people who want to work in agriculture. That has now changed in Kenya, but this kind of signal from the labour market is often not noticed. When we blame people for a mismatch between social and labour market demand, perhaps the labour market is giving out different signals.

Something mentioned by Jamil SALMI was academic drift. He mentioned the polytechnics in the United Kingdom. When the polytechnics were given university status in 1992 the system of evaluating universities also changed. A new system was brought in, whereby universities and their departments were graded according to their contribution to research and knowledge. Those universities that attracted large amounts of research funding were rated world class, others were rated as less than world class, and so on downwards all the way to the universities that concentrated on teaching. The government itself organized the labour market so that social demand ran contrary to what the labour market was supposed to be demanding.

This kind of contradiction should be taken into account. When we accuse families and individuals of being irrational we should look first at the labour market, and ask whether the market is being irrational in terms of its requirements.

We must think in terms of ambition and hope. A good example is the labour market for actors, dancers and musicians. It is overcrowded. In New York at any one time 90% of the 60 000 dancers in the city are unemployed. The labour market says they are irrational, but they continue to hope. We must balance demand against hope and ambition. We might have given some space to this: to the demands of the market, to ambition and hope in the labour market and to social demand.

Does the labor market need more skills?

(JM) Michel VILLAIN mentioned the problems of over-qualification. This is an important and crucial topic that we have not been able to address fully.

In a number of countries, including France, the companies and the labour market are increasingly employing over-qualified people. For instance, a job requires the qualifications and skills of a higher technician, but the company employs an engineer to do it. IUT or BTS graduates are increasingly finding technician level jobs, and thereby facing “dequalification”. Graduates are not doing the jobs that, according to their degree or diploma, they should be.

Higher education is fairly rigidly organized, and if we do not make it more flexible we should understand the risks we are running. For instance, in Morocco several years ago unemployed doctors went on strike. In the long-term dequalification has economic costs: one extra year of studies, which is useless if the student does not gain a better job at the end of it, costs money. There is also a human cost; de-qualification leads to frustration, which in turn has an effect on

social cohesion. What is a higher education degree for, if it does not lead to a more prestigious job? It seems we have not dwelt enough on the topic

What does “short term” mean?

(JO) I have not heard a definition of short-term technical vocational education. The bias of the discussions was on the two-year degree or diploma, rather than on a wider range of short-term education at a higher level. Our conference is in fact a form of higher education. I have learned during these few days. Should I have a diploma for that? In between our three-day conference and the one- or two-year degree course, there are other forms of short-term education and training that we have not mentioned.

Jamil SALMI's first presentation brought this problem up. He suggested that in the future a technical degree would have a five-year validity, which would necessitate updating and retraining. The whole labour force would not be able to go to training for a year or six months at a time; other modalities would be necessary. If a degree had only a five-year validity, how would we ensure that it was updated with the least personal and corporate cost and disruption?

Perhaps we should measure technical and vocational higher education not by time, but by competence and knowledge. We would then talk not about six months or one year, but about this competence or that knowledge. This different perspective might enable us to develop a wider range of flexible modalities to acquire that knowledge.

Are we afraid of evaluation?

(JO) The issue of evaluation was again brought up by Jamil SALMI in his first presentation, and then brought very forcefully to our attention by the Canadian presentation's mention of a balanced scorecard.

Accountability was mentioned, but we have had no discussion of the best way of making institutions accountable for their programmes. Perhaps we take evaluation and accountability for granted. There was huge controversy in Britain when the government decided that universities would be accountable, that their quality would be measured and their ranking would govern their funding. In Britain at least evaluation and accountability are not part of the culture. Perhaps we should have gone into it more. Do we need an elaborate, well thought through system as in Canada, or do we need it to be part of the way we run things?

(JM) Personally I think that evaluation is not yet part of our culture. In Latin American countries, for instance, evaluation is very important. But in France, as in Britain, we are afraid of evaluation. One reason for this is that accountability and evaluation are not always the same thing. Evaluation can be a synonym for control, which equals suspicion. If you are checking up on me it is because you suspect me of not doing my job. This is not a constructive mentality, and should be changed. The more we deal with flexible systems the more evaluation becomes necessary. Only through a free and open approach can we move ahead. Evaluation is a tool that enables us to identify the gap between objectives and results. This gap analysis will give way to solutions. Sam MIKHAIL's presentation of the model he has developed and implemented shows that there is a new element which we could have highlighted and put to better use.

2. Constant findings

Conditions of Success

(JM) After Two days of presentations and debates, can we identify the keys to success for short term technological training? We see five:

a. Political will

(JM) The first thing, which appeared very clearly, is that there is no possibility for success for short-term streams if they are not supported and even initiated by strong political will. We saw several examples of success achieved over time: France, Canada, Tunisia, Mexico and Korea, for instance. The key factor in those experiences is that governments change but policy must remain. If it does not, success can never come about. Time, political will and active support are all necessary factors for success.

b. Partnership with the professional sector

(JO) I would like to add to the idea of political will the idea of the policy of the entire country. Only when the government, private and educational sectors are jointly convinced to come together and carry this through can it work. This has been the case with IUTs in France, for example. The conviction is not only political, but social as well. Any partnership must entail not only joint conviction, but joint pulling together. This includes networking and co-construction, which means a consensus in building up a system. Without social conviction the building up of a system that will work for the entire population is a much more difficult task.

c. Autonomy

(JM) The partnership with the social professional environment requires autonomy of action. That notion is closely linked to the development, maintenance and relevance of training systems. After signing contracts with businesses, organizing internships and generating self-funding in order to acquire the right to struggle on a market, the institution must continue to renew its material. It must live, by selling training sessions and courses, and being active in the area of transfer. In order to do that, institutions need autonomy. They must be legally able to do these things, but directors and managers must also accept monitoring and controls. That is what autonomy is all about.

d. Sufficient initial means

(JO) Perhaps it is obvious, but training needs basic initial resources, both financial and human. As we heard from Chad, the difficulty is in mobilizing those resources. People are necessary to set up and run the system. Institutional capacity is necessary to undertake initiatives and follow them through. Without those things any institution will run into difficulties. They are necessary for the initial launch. Once it is up and running other resources are needed. In the first place however, the government, the private sector and the university sector must identify and make available the necessary resources.

e. Evaluation system

(JO) On accountability, we have heard quality assurance mentioned. This must be watched carefully in order to build confidence in the system from the beginning. The system must assure its own quality, and be transparent in doing so. The quality assurance methods must be thought through in such a way as to generate both internal support and external recognition.

Those are what we consider to be the preconditions of success. If you really wish to be successful, you must make sure that they are at the heart of your institution.

Flexibility

(JM) The flexibility of different streams is a core issue. We are in an environment in which new jobs and trades are constantly appearing, and others disappearing. Within this environment it is very difficult to standardise training needs. Those needs expressed today could change tomorrow, which impacts on teaching methods and resources. Efficient training is flexible training. We must therefore move towards modularity. We have mentioned credits, the use of semesters, and the use of a credit bank in Korean. We must build bridges and fight against putting streams into silos. We ought to think about promoting mobility. Certain politicians are thinking about freezing streams and not allowing them to develop and evolve. The public in a country such as France has a big responsibility to become more open and flexible towards the private sector.

(JO) We have seen a great deal of flexibility and variety in the kinds of teachers within the different systems. Student flexibility is also important. Transversal or general skills are becoming more and more important. Learners need to be like boxers: balanced, but able to move and respond quickly to changes in their environment.

Tapping from different funding sources

(JO) The mobilization of different finance streams is also an important aspect of success. We have seen this in various countries, such as France, Canada and Chile. The Chilean case might need increased regulation, but they manage to acquire the necessary resources. Streams of finance must be plural, not singular.

Need for a global vision of human resource management

(JM) Human resources must be managed within a global framework. Human resources are central to many of your concerns. If a country experiencing economic difficulties focuses on teacher training, the private sector will take those trained teachers. The private sector can offer better salaries, and schools lose teachers. It is good for the private sector to have skilled and highly qualified people, but schools no longer have the human resources they need. We believe that a more global vision is important. Teacher training must be put in a global framework of planned human resources management. It is important to consider that teacher training is a central issue key to the future of countries. Many countries realize that it is essential, and that there is a continuum between the quality of teachers and that of education. Teacher training cannot be dealt with in isolation, but must be looked at within a societal context. Human resources management then requires genuine planning, or at least an in-depth debate.

3. Good practices

(JM) We have observed many good practices throughout this conference. We cannot summarise everything, but we would like to highlight some ideas.

(JO) As a pedagogue I was impressed by Canada's *approche métier* and *approche compétence* idea of building up the curriculum from what has been done in the profession. We heard last night that the private sector is unable to forecast its own needs. If educators are monitoring what is going on in the world of work, how it is changing and which competencies are being used, then they can read trends themselves. Educators should therefore investigate the strategy of *approche métier* and *approche compétence*, and see if it can be adapted to their particular circumstances.

(JM) Some interesting ideas came from Tunisia. An assessed higher education faculty, and a semester approach that means the school year can be begun in either autumn or winter, are both original and promising ideas that lead to solutions. Company incubators was another such idea.

(JO) Korea's credit bank idea was an excellent one. This allows learners to be flexible without losing the validity of what they have learned.

(JM) In Chile, it is clear that much innovative work is being done. The first time company managers from both large companies and SMEs, professional bodies, academics and mayors all come to the table together to be told that they must set up a shared technical platform, it is a very positive experience.

There is a risk of failure, but things are starting to work here and there. We are beginning to realise that you cannot simply bring any people together, but you must be careful whom you involve. The Chilean experience is very interesting as far as professional involvement is concerned.

We could also talk about Mexico, which has some interesting experiences and good practices to relate about relationships with companies, and international openings.

Somewhere in the world there must be a solution to your problem. There are people who have thought about it, and have begun to develop solutions. This type of conference is an opportunity to develop links between us. If we have managed to do that, we have succeeded.

I would now like to open the floor to you. What has happened over these three days, and what are you expecting for the future?

II. Debate

Albert Prévos

Thank you, gentlemen. Your words, in and of themselves, seem to have justified our discussion. And now to the floor.

Josette TRAVERT, Academic

The conclusion was a difficult task, but you have summarised clearly the frustrations and questions and have drawn interesting conclusions. Nobody talked about good practices during the conference. You have done that to some extent, but we could also derive some good practices from

European experiences. You talked about flexibility, ECTS, and modularisation, all of which are part of many European systems thanks to the Bologna process and the 3-5-8 system.

From the Floor

I regretted that we have not talked about the qualification framework that we are currently structuring. It allows great flexibility, and deals with short-term education and modularity.

Mokhtar Annaki, Director of Higher Education, Ministry of National education, Morocco

Under the conditions for success we have forgotten a core dimension: the individual. That includes his or his family's representation of university education, and is part of the social and cultural specifics of a country. Who is this individual, and under what conditions will he enter a short-term education program?

When experiences are listed people think they are the only ones that exist, which of course they are not. Morocco had a very particular implementation experience. All of the different topics, from recognition through modularity to co-construction, had an impact on us. The Moroccan experience deals with the whole process, from writing a charter and negotiating with universities and society onwards. Both technical and social constructions must be implemented. Our experience was set up within a specific context, even though it was inspired by other countries. We are ready to share our experience with you.

Many participants have mentioned specific experiences. This has taken down a number of barriers regarding, for instance, the role of the state. This is part of the experience of cultures, and I would like to thank the CIEP for this opportunity.

Abdehalli Kane, Director General of Technical Higher Education and Scientific Research, Ministry of National Education, Mauritania

Many thanks to Jacques MAZERAN and John OXENHAM, although they forgot the Mauritanian experience. There is a big issue here. There is a need for professional training, but even if we all agree to set up such training the public is unaware of the specifics of it. Training is not publicised, and carries a social cost. It is not an easy decision to make to send your child on a short-term professional training course. You would rather have them trained to become an engineer, or a doctor, or a lawyer. There is much to do within society.

When we talked about flexibility, we forgot the teacher's profile. Teachers should not only be involved in research and teaching, but should also be involved in the professional world. Perhaps we should manage these teachers differently. We should define a status for them.

Is it really necessary to customise education? In Africa, where the market is very informal, should we just train technicians and set them free on the market to see how it reacts? Although the skills approach is very efficient, it is not valid for every country.

William Experton, Lead Education Specialist, World Bank

I would like to remind you where we come from. At the beginning of the conference we all regretted the fact that we had the university sector and the rest, which was just called the non-university sector. Somebody even wondered whether short-term education existed at all. The fight for recognition has not yet been won.

This morning someone said that many sectors were under represented within short-term vocational higher education. The problem of recognition is crucial in many countries, but it goes beyond the institutions. The problem is to do with the social recognition of training.

As for the future, international university cooperation exists, and it dominates international conferences. This first initiative opens new doors, but we need more international meetings for solidarity to emerge. When that happens, perhaps recognition will follow. This is necessary at the international level thanks to globalization. Franchises, distance learning, training systems and standards are being defined everywhere. Short-term education should also be heard. There should not be a conference without representation from this sector.

Virginia Astorga, Chief of the Unit of Quality Improvement in Technical Training, Chile

I do not agree with Jacques MAZERAN who said that we are not self critical enough to study our weaknesses as a system. We are here because we are convinced that action is needed.

The lack of recognition given to technical higher education in some countries may be due to a lack of tools necessary to interpret reality and to study the social and industrial context. Following the example of the engineer who takes the job of a technician; perhaps the engineer had training that was more relevant, and the technician did not have enough education to hold the post.

We believe that one way of improving this data collection is to strike new partnerships with the different partners and players. In some cases our learning has been rough, because some partnerships are more difficult to implement than others. For each partner we must define both the need for that partner, and their specific role within the system.

Linda English, Senior Education Specialist, World Bank

In the Middle East and North Africa region of the Bank we are conducting a survey of educational reforms. We are looking at reform from three angles. We are studying why systematic reforms fail to have the desired impact, and have found that there is not enough emphasis on the institutional and accountability aspects of reforms.

Relationships, roles and behaviours between the private and the public are essential. Accountability and evaluation mechanisms are also crucial as drivers of the system. I would like to learn more about the Canadian balanced scorecard, and whether it is applicable in a simpler way to the countries in which we work. Most of the developing countries have massive fiscal constraint, and government revenue as a percentage of GDP is very small. The demand for education is increasing rapidly, and so we need ways to make the systems more efficient. It is through better accountability that we hope to achieve that.

Juana Scarsi Guzman, National Director of Vocational Training, Peru

I would like to add both a frustration and a condition for success. Given the Peruvian perspective, one of our major frustrations as far as technical training is concerned is that many pilot projects have been implemented and validated, but then not generalized. They have stayed pilots. Outside the Ministry of Education it is said that the Ministry is a cemetery for pilot projects.

Given the wide variety of tasks and actions required by training, perhaps we need a new type of institutional director. One condition for success, therefore, is to realize that we need good institutional managers, who themselves need to be trained.

Jean Kouliadiati, Vice President, University of Ouagadougou, Burkina Faso

Sub-Saharan African countries face great financial difficulties. The budgetary situations are not positive, but there are almost no civil wars in these countries anymore, and democracy is widely spread. National private investors are increasingly trusting in the system. I would like to hear from the World Bank about how we can dispense with aid and technical assistance. Sub-Saharan African countries want to be able to manage without help and support. Can we stage a conference focusing on issues specific to sub-Saharan countries? As far as solutions are concerned you have mentioned the necessity of sufficient resources and autonomy of action, which of course are relevant. We are committed to accepting supervision and monitoring. Perhaps by coming to Africa and talking to Africans you can help us draw up a list of needs and suggest solutions to help us work our way through this.

Sylvie Bonichon, European Union

In Europe, we have not mentioned the work done by the Danish Ministry within the Bologna process focusing on the quality framework. In this report there are the Dublin descriptors, which were set up in Dublin in 2004. The short cycle is mentioned as being part of the first cycle of the 3-5-8 system. This is part of the higher education system, and of life long learning.

Albert Prévos

Thank you. Now back to our two speakers.

Jacques Mazeran

The large number of questions means that we have not yet exhausted this subject, and that dialogue is essential.

Among the frustrations mentioned was that we only talked about four experiences. These were the ones dealt with in the most detail during the conference, which was too short to talk about every experience. There are good practices and positive projects happening all over the world. Perhaps we should develop an online forum for sharing and talking about them.

The battle for recognition has not yet been won. There is a role for marketing here. Within the university and higher education sector many conferences and meetings take place. A great information movement exists. There is a need for greater information exchange concentrating on short-term vocational technical programs. Perhaps we should start an internal magazine.

I appreciated the remarks about the place of the individual. Who are the people who join short-term streams? We know that in France short-term streams attract people from disadvantaged backgrounds. We need to work on this.

We suffer from fiscal constraints. We have limited budgets. Because of this, our systems need to be more efficient. Accountability and quality assurance become essential topics here.

We have an opportunity here. We have material that can be exploited; we must work out how to do that. When you leave the conference you will receive a CD with all the power point presentations used in the conference. In a few months we will send you a USB key containing the Conference Proceedings. There will be other follow-ups, to be determined later.

III. Closing remarks

Albert PREVOS

1. Increased awareness

Frustration is the greatest engine of history, so with all these frustrations we have made a good start indeed.

My first major conclusion is that this conference has not been useless. It has allowed us to become aware of the reality of our subject. When we started we were talking about these programs as 'non-university'. Now, with increased awareness, we can define them in a more positive way.

Another conclusion we can draw is that we lack statistics on these issues, which comes back to the problem of recognition.

We are all at different stages in our development, and there are discrepancies in our systems. There are also differences in the way we speak about these programs. All of these observations are enriching, and do not prevent us from concluding that our needs are similar. The exchange of information that has just happened here is a new way of building these short-term vocational training programs.

We have mentioned the sustainability of these training programs. In the course of this conference we have shown that they are sustainable.

We have understood the message that we need to share more good practices and information. There will be follow up to the conference.

2. Evolution of social models

When talking about short-term vocational higher education, whatever you call it we are talking about the organization of our societies. This shows that this type of training is at the heart of our societies, and at the centre of their evolution.

I have heard the comment that firms do not cooperate. That is not true. Firms and the education sector do cooperate in this field, but this cooperation can be strengthened further.

When we talk about the growing role of quality, we return again to the evolution of our societies. The search for quality is at the core of society. Wherever we are we are asked to be accountable, and we must accept this. We are accountable to the system in which we live.

The adaptability of human resources to employment is also at the core of the debate in society. In France, we have just had the referendum on the European Constitution. Does the result not reflect the fear of the population about the adaptability of human resources?

Flexibility is an issue raised in society. Underlying the question of flexibility is the capacity of the people to change jobs. For example, there are now recruitment possibilities for ethical computer hackers in some companies. This situation would have been unthinkable a few years ago.

When we discuss the regulation of the social ladder and the management of dynamic flows, we are also talking about the organization of our society. We have mentioned social lift; short-term vocational higher education is all about social lift. Social lift in France has broken down. Can it be mended, and is short-term vocational training a way to do that? Has the social lift stopped functioning because of the market, or because of public authorities? Could a debate between the two lead to some sort of revival?

Short-term vocational streams give access to employment. Why do governments not do more to develop them? The 3-5-8 reform will lead us to ask ourselves about the role of short-term vocational higher education in employment. All of this discussion leads us to ask ourselves about our societies and how they operate.

3. Conference follow-up

There have been many requests to pursue and deepen our exchange. In order to facilitate this, we are considering an electronic follow-up. I would like to thank the person who has worked on the comparisons between European systems for her willingness to provide us with details of her work. The Conference will be disseminated, in a format yet to be determined. Two further conferences are currently being prepared: the first of these is an IUT-organized Franco Chinese seminar on technological education and vocational training, which is tentatively set to take place in the first half of November; the second is a regional conference, taking place in Lima, Peru, which will focus on vocational training for a competitive society. That conference is being organized jointly by the division for vocational education in Peru, the organization of Ibero-American states and French IUTs. There is an ongoing discussion on technical education and vocational training in Africa. We will try to promote such a conference for 2006 in Ouagadougou, at the invitation of our colleagues from Burkina Faso. UNESCO is ready to take part and I am sure that the World Bank will be present as well.

Having discussed quality, perhaps we could launch a debate on quality in higher education, including short-term vocational higher education, in a specific region of the world. This could be organized as a follow up to this conference. These leads will allow us to continue our debate and to try to solve those frustrations.

I would like to thank the panelists and speakers for showing us the issues so clearly. I would also like to thank the moderators, who had to arbitrate such passionate debates. My thanks go to all of those who have taken part in the organization of this event: the World Bank, UNESCO, the Ministry of Foreign Affairs, and the Ministry of Education, Higher Education and Research, as well as to the Conference Steering Committee for selecting the topic.

I would like to thank John OXENHAM for bringing his extensive knowledge to the summary of the conference. I would also like to thank the CIEP team, who has worked very hard for this conference, Jacques MAZERAN, his assistant Candice CHENU, and the education department. I would also like to thank the hospitality and catering teams, the technical and audio-visual team and the interpreters.

Conference ends at 1:25 pm.