

Chinese and Australian Students Learning to Work Together Online

Proposal to Expand the New Colombo Plan to the Online Environment

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Abstract—The Australian Government's "New Colombo Plan" provides \$100m funding for Australian university students to undertake part of their studies at universities in the Indo-Pacific region, to foster greater cultural understanding, technical and business links between Australia and the region. The aims of the origins and aims of the original and new Colombo Plans are compared and the option of to teach Australian and Chinese students together on-line, to meet the plan's aims are explored.

Index Terms—Computer Science, Education, China, Australia, Body of Knowledge

I. INTRODUCTION

The Australian Government's "New Colombo Plan" provides \$100m funding for Australian university students to undertake part of their studies at universities in the Indo-Pacific region [1]. This is intended to foster greater cultural understanding, technical and business links between Australia and the region. The Australian Government has emphasized innovation, flexibility, an alumni network and "spreading the word" [2]. University education is increasingly being undertaken online. Attention therefore needs to be paid to bringing students together on-line as well as on campus. At the Australian National University's Research School of Computer Science, we have been bringing students from different countries together on-line to discuss issues of importance to the world and undertake projects jointly. This approach can be expanded to allow students to work together on-line and gain a better understanding. China has a long tradition of distance education and that expertise could be combined with Australia to prepare joint classes for students, not only from China and Australia but around the region.

This paper first looks at the aims of the origins and aims of the original Colombo Plan, at the new Plan, then at the application of Distance Education in the computer science and engineering disciplines in Australia and China. Lastly the paper proposes how to bring these elements together to teach Australian and Chinese students together on-line, as part of degree programs.

II. THE OLD AND NEW COLOMBO PLANS: SOCIAL, POLITICAL, ECONOMIC, AND EDUCATIONAL CONTEXT

A. The Colombo Plan

The Colombo Plan for Cooperative Economic and Social Development in Asia and the Pacific, came put of a meeting of national representatives in the city of Colombo, in 1951 [3]. While the Plan is frequently referred to in the past tense, it is still in operation with a secretariat still located in Colombo and is the world's longest-running bilateral aid program [4, p. 3].

The Colombo Plan was conceived after World War 2, to enhance economic development and security in the South and Southeast Asia region, though the provision of educational and scientific aid from Western countries. The plan was made up of a number of separate aid programs from individual countries. Most relevant to the current discussion, is the provision of scholarships from the Australian government to allow approximately 20,000 students to study at Australian universities. Championed by Percy Spender, Australian Minister for External Affairs, in 1950, as a response to the Cold War and decolonization. [4, p. 3].

The Colombo Plan was a form of Australian soft diplomacy, to deter perceived Soviet influences in the region, without appearing a threat to Asian countries culture or religion. "Australia allocated aid according to four criteria: political objectives, commercial interest, relative needs based on per capita income, and the amount of aid provided by other countries." [4, p. 78].

In 1952 Australia agreed to provide six "cinema vans" and educational films for Indonesian vocational training, in an early form of mobile educational multimedia [4, p. 85]. However, apart from this education under the Australian part of the Colombo Plan was primarily conventional on-campus face-to-face classes and research, at existing Australian universities.

Colombo Plan students were encouraged to interact with local students on Australian campuses in the same degree programs. However, Colombo Plan students were not permitted to take part in the political activities which are a normal part of Australian university campus life. The students

were at times threatened with cancellation of their scholarships by both their home nation and local Australian government officials [4, p. 197].

B. *The New Colombo Plan*

The Australian Government has committed \$100 million to the New Colombo Plan over five years from 2015 [5]. The new plan is described in language reminiscent of the old “transformational, deepening relationships with the region, both at the individual level and through expanding university, business and other stakeholder links” [5]. The plan is being piloted in 2015, for students to study in Indonesia, Japan, Singapore and Hong Kong. As well as 40 scholarships there will be 700 smaller “mobility” grants [5].

C. *Comparison of Old and New Plans*

The key difference between the old and new Colombo Plans is the direction of travel of the student: the old plan was for Asian students to study in Australia, whereas the new plan is for Australian students to study in Asia. Also the Colombo Plan was multinational in origin, with Australia forming bilateral programs, whereas the new plan is from the Australian government, working with Australian universities, which in turn coordinate with overseas institutions.

The old plan was an aid program to assist with regional economies, whereas the new is more focused on Australian economic development. Both plans have an element of Australian strategic interest, to foster better relations.

The new plan is for the “Indo Pacific region” [6], whereas the original was for “South and South East Asia”. This suggests an expansion of scope to cover a wider area, particularly China and Japan. This perhaps reflects wider Australian strategic concerns, in part due to the increased range of military weapons systems in the region over the last fifty years.

The pilot phase of the new plan limits overseas study to one year (plus preparatory language training), whereas the old plan was for an entire multi-year degree program. Students of the new program are required to participate in activities to promote the program, which has similarities to the restrictions placed on the political activities of students under the old plan. It will be interesting to see how the Australasian government reacts to any political activities by students during the program, or critics the program by graduates.

D. *New Colombo Plan Much Smaller Than Old*

The annual Australian defence budget is \$27,843 million for 2014/2015 [7]. In comparison, the original Colombo Plan's Australian commitment was approximately £A5 million per year in the 1950s, with a defence budget of £A170 million per year [4, p. 81]. The New Colombo Plan's budget would need to be increased forty times to \$4,000 million over five years, to be comparable to the old plan.

E. *AsiaBound Grants Program Precursor to the New Colombo Plan*

According to Oakman [4], the Colombo Plan had bipartisan support from Australia's major political parties. A similar level

of bipartisanship exists with the New Colombo Plan. Then Australian Labour Party Prime Minister, Julia Gillard, announced a student grants program, in April 2013, explicitly comparing it to the Colombo plan: “*What we do today dwarfs in size and scale the work that was done under the Colombo plan.*” [8].

The “AsiaBound Grants Program” opened on 8 April 2013 and has been retained by the new Coalition Government essentially being incorporated in the New Colombo Plan. This scheme offers universities up to \$5,000 per student for up to six months study in Asia. In addition \$1,000 per student, is offered for Asian language study, prior to during the visit. This scheme is funded for approximately 3600 students per year [5].

III. DISTANCE EDUCATION FOR PROFESSIONALS IN CHINA AND AUSTRALIA

A. *Distance Education in Australia*

Sydney University set up an extension program, for students outside the fulltime program, as early as 1886 [9]. The University of New England (UNE), located in regional Australia, commenced distance education, using printed material by post in 1955 [10, p. 73]. The “New England Model”, developed by UNE, combines campus based course and distance education. Keegan suggests that this came about by necessity, as Australia did not have sufficient population to warrant a separate distance only institution.

Open Universities Australia (OUA) is a consortium of Australian universities, with distance education students able to choose courses from the member institutions. OUA was founded in 1993 as the Open Learning Agency of Australia Pty Ltd [11]. As in other open university institutions, OUA places an emphasis on vocational and professional education. Unlike other open universities, OUA students graduate with a degree awarded by one of the consortium members, not OUA itself [11].

A search of the Australian Government's *My University* website [12], for bachelors programs (with or without honors), indicates they are currently offered by distance education programs at the seven institutions:

- ¹ Central Queensland University,
- ² Charles Darwin University,
- ³ Deakin University,
- ⁴ Edith Cowan University,
- ⁵ Murdoch University,
- ⁶ University of New England, and,
- ⁷ University of Southern Queensland.

It should be noted that these seven institutions are those listed as offering a whole distance education masters in computer science in Australia. Other institutions offer some online and blended components of a program.

B. *Distance Education in China*

Wei provides an overview of distance education and open learning in China from the perspective of the country's radio and TV universities (RTVUs) [13]. These universities were established in the early 1980 and by 2008 produced just under

20% of China's graduates. Wei points out that RTVUs shorter vocational programmes, as well as degree programs for adults (who had limited access to traditional university programs).

Wei traces China's RTVUs to 1979 for training personnel in the agricultural sector, industry and technology. A central unit developed programmes and content, with 28 provincial campuses undertook the teaching [13]. Wei describes this as a "network of single-mode distance teaching universities", with in this case "network" referring to the organizational structure, not the use of telecommunications. Program and course development was carried out centrally, with regional campuses (initially 28) delivering courses to groups of about 40 students.

Wei describes how in 2001, the satellite broadcast system used for education, was combined with the national university computer network (China Education and Research Network, or CERNET) for delivery of distance education courses to the RTVUs [13]. Interactive facilities using email, teleconferencing, Bulletin Board systems, chatrooms and instant messaging were later added. However, Wei emphasizes that group classes, not home access, remained the primary teaching method [13].

Wei describes a structural change with RTVUs becoming dual-track institutions, supporting part-time adult learners through distance education and full-time post-secondary students [13]. Smaller RTVUs merged into local higher learning institutions "totally losing their identity as an independent distance higher education institution".

The central Open University of China website of 2014 (<http://en.crtvu.edu.cn/>) is provided in two languages: Chinese and English. While it is common for advanced university studies to be carried out in English, it should be noted that RTVUs also serve vocational needs with short courses for students where the local language is more appropriate.

China's Radio and TV Universities have more similarities than differences to Australia distance education universities, sharing similar origins in the provision of vocational education for regional areas, starting with broadcast TV and paper course-ware, then evolving to on-line delivery. The "Chinese characteristics" Wei [13] describes do not appear significantly different from Australian higher education. What differences there were with western universities may be disappearing with Chinese economic reforms and introduction of a market economy. The question then is, can Australian and Chinese students usefully learn together online?

IV. PROPOSAL FOR THE DESIGN OF A DISTANCE EDUCATION ORGANIZATION

A. Number of Computer Science Information Technology Students

In 2010, the latest year for which statistics are available, Australia had 1,192,700 higher education students, of whom 146,300, or 12%, were studying by distance education [14]. In 2012, 16,370 international students were studying information technology (IT) in Australia, 7% of the total international students [15]. Assuming a similar proportion of international

and domestic students study IT, then there would have been just over 10,000 distance education IT students.

B. Motivation for Taking Up an Inter-Cultural Course

As discussed previously, the Australian Government intends inter-cultural programs, such as the New Colombo Plan and Asia-Bound is to foster greater cultural understanding, technical and business links between Australia and the region. However, it has to be asked what will be the motivation for individual students in taking up such a program. There is funding available from the Australia Government, however given the number of students studying in Australian universities, the funding is unlikely to be a significant motivator of students. It is suggested that the chance to gain international experience to aid future job prospects is more likely to be a motivator.

C. Pedagogy and Curriculum Choices

Computer science students are required to undertake group project work as part of their degree program. The Australian Computer Society's (ACS) *ICT Profession Body of Knowledge* (ACS BoK) is used for the accreditation of Australian university computer science and information technology courses [16]. The ACS BoK in turn relies on international standards and frameworks for defining IT programs and skills requirements, including the [International Professional Practice Partnership](#) (IP3), the Seoul Accord graduate attributes and the Skills Framework for the Information Age (SFIA).

In common with other standards for IT education, the ACS BoK, includes [Professional Knowledge](#) (PK) covering [16]:

- Ethics,
- Professionalism,
- Teamwork concepts and issues,
- Interpersonal communication,
- Societal issues/Legal issues/Privacy, and,
- History and status of discipline.

These topics have traditionally caused difficulties in a traditional course based, face to face, university program, as they do not fit within the traditional technical categories. One way to make these topics more relevant to the student would be to teach them on-line in a mixed group of students from different nations.

D. Mixed Bilingual Classes

In addition to teaching written and oral communication in English, a mixed class of students could be instructed in two languages, such as English and Mandarin. Students who have each have one of these languages could be mixed in on-line tutorial groups to teach each other. The interface for the on-line

Learning Management System (LMS) and all course content, could be provided in both languages.

An example of the provision of a bilingual on-line course is “Engaging India” (ANU-INDIA1x) to be offered in English and Hindi by the Australian National University commencing in mid 2014 [17]. The edX Massive Open Online Course (MOOC) software interface has been modified to allow for use of two languages. Course text will be provided in both languages. Videos will be in English, with subtitles in the second language. While more expensive and complex to produce than a course in one language, this approach is simpler than one with students using two languages in a face-to-face class. The asynchronous delivery of the material removes many of the problems encountered in real time delivery.

E. Use of e-Portfolio to Assist Learning and Assessment

The New Colombo Plan envisages Australian students traveling to other countries for six months, perhaps after some initial language training. The alternative approach suggested would either supplement or replace this, with online classes of Australian and regional students on-line. Such mixed classes impose a significant administrative burden on the institutions and staff, who have to align timetables and assessment processes. One way to provide more flexibility would be to use e-portfolios and templates for the students to document evidence of their achieving the requirements for their individual program. Students would then have the task to identify how and when what they have done fits with the requirements of their program and present the evidence via their e-portfolio, for assessment. The use of an e-portfolio would accommodate programs where students are required to undertake a large design project [18] and where they undertake workplace based projects [19].

F. Technology and Learner Support

Australia and China are in similar time zones, allowing for synchronized e-learning, using platforms. However, it is expected that LMS used for asynchronous delivery of most course material. Support for multiple institutions would be aided by the use of free open source software (such as Moodle, Open edX and Mahara), reducing cost and licensing issues. Development of new software to support formation of bilingual student study groups may be required.

G. Multiple Organizations for Support and Delivery

A proposal for a multi-nation educational initiative would normally require extensive negotiations between the education and foreign affairs ministries of the respective nations. However, in the areas of computer science and IT, the universities have already adopted largely consistent programs, based on international standards, fostered by the International Federation for Information Processing (IFIP). In addition the MOOC consortia, such as edX, provide a ready-made avenue for cooperation.

V. CONCLUSION

The aims of the Australian Government's "New Colombo Plan" to foster greater cultural understanding, technical and business links between Australia and the region may be achieved through the provision of online courses with students of different countries. This approach is particularly applicable for computer science programs, where the course content is already largely standardized internationally. Existing open source e-learning software may require further adoption to accommodate bilingual teaching.

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