FCM@MMU: content creation and multimedia design

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Abstract

The careful planning and emergence of the Multimedia Super Corridor (MSC) in Malaysia has captivated regional and international attention. Its basic intention is meant to spearhead and heighten national interests towards the information technology (IT) sector, while addressing issues of a borderless nature. Thus, an important entity in the MSC is its Multimedia University (MMU), the showcase, higher-education establishment for multimedia education and research and development.

The Faculty of Creative Multimedia (FCM) at MMU has grown tremendously since 1997, and it provides higher education opportunities in multimedia design. Its blend of course content, making up of pre-production, production and post-production multimedia training, includes both face-to-face and 'class online' dissemination methods. As multimedia curriculum of this mixed nature is relatively new worldwide, FCM have so far been successful in providing both local and international multimedia industries its required knowledge workers, content developers and 'cyberpreneurs'.

This paper will review the structure, assessment methods and learning pedagogies of the faculty in multimedia design and development, highlighting how a faculty that endeavours to keep up with the latest leading-edge technology and Internet culture can provide a down-to-earth curriculum and level-headed content creators. The paper will also illustrate and discuss the faculty's research and development centres together with its collaborating industries, as support for course and staff development.

Keywords: multimedia design education, design pedagogy, curriculum design, curriculum assessment, organisational management

Introduction

The Multimedia Super Corridor (MSC) in Malaysia was launched in 1996 to provide the necessary workforce, infrastructure and training to the nation, as the Government catapulted the nation towards the information technology (IT) era for the new millennium (Mohamad, 1998). As such, a national ambition of this proportion will involve elements of governance, physical and technical infrastructure, health, finance, and education. Several 'incubators' were built in the process to accommodate and temporarily harbour young, start-up IT and multimedia companies. The financial sector also initiated small and medium industry (SMI) loan schemes to these business ventures. This provided encouragement to those who ventured into the new multimedia and Internet business. Nevertheless, *cyber cafes* mushroomed across the nation as Internet facilities became cheaper and the rental of lease lines declined.

The Internet and World Wide Web (WWW) culture is still finding its way in this nation. Although the early multimedia and WWW content were largely determined by those knowledgeable in IT, it was soon clear that young businesses venturing into multimedia development work required appropriate content developers and designers. Hence, it is a learning process for the IT and multimedia industry in this nation (Schreiner, 1999). In such circumstances, the Multimedia University (MMU) within the MSC plays a pivotal role in aiding the nation's economic growth in the Information Age, and in providing the direction and workforce necessary for related IT and multimedia industries.

Profile and staff of FCM

The beginning was naturally slow. Not many locals understood the significance of the MSC, and meaning of 'multimedia', *let alone* imagine its products. As such, it was an apparent 'chicken-

and-egg' scenario faced by the Faculty of Creative Multimedia (FCM) in two key management issues. Firstly, the staff recruitment to run its course programmes. The search for the right staff, whose strength and understanding balanced between computing and design fundamentals, was an arduous task. It was soon evident that being 'multimedia' meant that the academic staff would have to be multi-disciplinary in nature and experience, too. For FCM, design is its key area of interest. Hence, FCM's direction, nature, role and its course curriculum are based upon design as the basis for content creation and development (England and Finney, 1996).

As such, FCM is the only faculty at MMU with the widest array of academic staff background. Many of the present staff were previously advertisers, copy-writers, screen writers, broadcast specialists, cartoonists, photographers, 2-D and 3-D animators, video production specialists, computer analysts, computer-aided designers, product and industrial designers, ergonomists, painters, sculptors, music teachers, arithmetic teachers, architects, graphic designers, interior designers, film and video specialists, and engineers.

On the other hand, procurement of facilities and resources also proved daunting. Initially, FCM had to weave through an assortment of bureaucracy to substantiate our 'special' needs and requirements. As the nation gradually awoke to new technology and know-how in multimedia design, MMU led the way for the local scene in higher education and industry to source for the latest hardware and software technology to facilitate its research and development (R&D) work and course curriculum. Local publishing houses and agents, hardware and software vendors, and building renovators soon became aware of the needs, i.e. resource and facilities, that FCM require for its education, training and R&D work.

FCM's on-going R&D work and its first graduates in May 2000 have proudly depicted, to the university and to the nation, the role and function of multimedia design education, and it helped justify the costly setup at the initial management stages.

Degree courses, research and industrial partners

FCM offers four full-time, undergraduate BSc (Hons) programmes, which consists of a one-year, Pre-University (Pre-U) programme followed by a three-year, full-time degree programme. The said programmes, also known as 'majors', are:

1 digital media (information design emphasis)
2 media innovation (advertising design emphasis)
3 film and animation (animation emphasis)
4 interface design (product design emphasis).

At present, the Pre-U programme is exempted for those students that have conducted a portfolio review session and possess a three-year diploma in a related field of design study.

In general, FCM's academic interests are reflected in the work currently conducted by its R&D centres. Figure 1 shows the faculty's research centres and their respective interests, being supported on campus by industry partners, Motorola

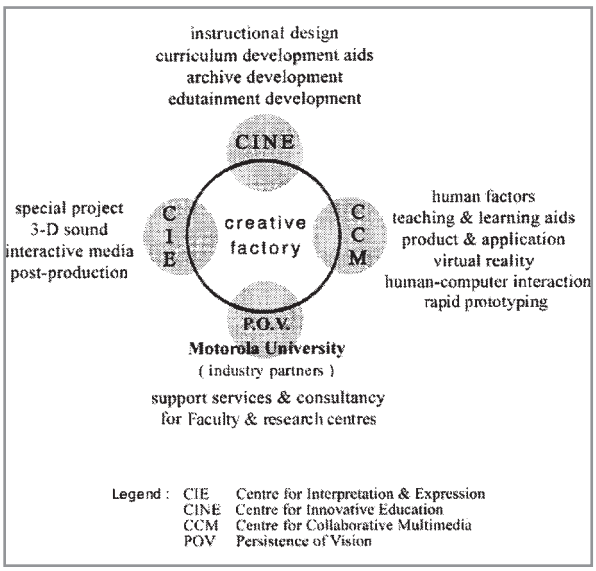

Figure 1: Research centres, its interests and industrial partners at FCM.

University (Malaysia) Sdn. Bhd. and Persistence of Vision (POV) Sdn. Bhd.

Naturally, these on-campus industry partners are profit-making ventures. However, MMU provides the option to facilitate their business plans, offices and budgets on campus, thus strengthening ties with related multimedia and telecommunication industries on a win-win basis. Nonetheless, the commercial presence of related industries on campus provides certain advantages to the university faculties. They are:

1 to provide management and academic feedback useful for curriculum development
2 to provide staff for specialised lectures (as invited speakers)

3 to provide staff for critique sessions and portfolio reviews (invited reviewers)
4 to help cater for internship placements
5 to encourage and generate real-world design ethos and administrative environment
6 to help promote high-standards of R&D in multimedia and related disciplines
7 to provide and collaborate in consultation projects and public lectures
8 to propagate and promote the goodwill of MMU towards the MSC and its national concerns.

Entrance requirement, course outline and learning environment

Currently, there are two entry levels to the degree programme offered at FCM. One at Pre-U level, whilst the other as direct entry to first year level. The entry to Pre-U level includes those with a minimum of an Ordinary or 'O' Level certificate (secondary school), while first year direct entries, as mentioned in the previous section, requires a minimum of a three-year diploma in related design disciplines and a portfolio review. As such, the degree structure provided at FCM has been designed to cater for non design-oriented students. This is imperative, as the National Curriculum does not offer a mix of design and technology. On the other hand, there are a number of local colleges offering certificates and diploma programmes in related design disciplines. Hence, the rather rigid entry requirements for first year level so as to ensure integrity, consistency and quality.

Students will be together for Pre-U and first year, after which they are required to select the major they wish to pursue before entering the second year. The subjects offered throughout Pre-U and the degree programme are made up of the following categories:

1 design (e.g. design fundamental and design process)
2 computer (e.g. computer graphics and computer modelling and animation)
3 liberal (e.g. design appreciation and design history)
4 university-wide (e.g. mathematics and English language).

Table 1 highlights the respective credit hours of each category with regards to the academic degree levels. This depicts the ratio of design-computer-liberal subjects throughout the Pre-U level and the degree programme stages. The accumulation of credit hours begins in the first year of the degree programme, while the total credit hours required to graduate are 121 credits. This is equivalent to the Cumulative Grade Point Average (CGPA) of 4.00. University subjects are compulsory courses taught campus-wide, where students from every faculty will attend similar classes and tutorial sessions.

level / subject area	Pre-U (alpha)	Degree Programme		
		1st Yr (beta)	2nd Yr (gamma)	3rd Yr (delta)
design	12	19	14	18
computer	9	19	18	0
liberal	6	3	6	6
internship	-	-	-	3
university	15	9	5	1
total credit hours	42	50	43	28

Table 1: Subject categories and credit hours.

The overall proportion of design-computer-liberal subjects at degree level is at 50-30-20 (calculated as percentage from the total credit hours, excluding university subjects and Pre-U subjects). However, the approximate design-computer-liberal proportions for individual Pre-U and the degree programme stages are as follows (excluding university subjects):

1 Pre-U: 45-35-20 (total 27 cr. hrs.) – emphasis on design fundamentals
2 1st Year: 45-45-10 (total 41 cr. hrs.) – balanced between design and computing
3 2nd Year: 35-50-15 (total 38 cr. hrs.) – applied computing and specialisation
4 3rd Year: 70-0-30 (total 27 cr. hrs.) – major projects (applied design and computing).

Figure 2 (see overleaf) shows the proportion and lists the related design, computer and liberal subjects throughout Pre-U and the degree programme. The close proximity of industry within academia allows the curriculum to explore design and computing issues with real-world design briefs. This scenario allows students to explore their design strengths and direction from a practical context. Nevertheless, the course subjects can be classified into the following categories:

1 studio
2 lecture
3 computer.

As a design-based faculty, the formal lecture- and computer-based activities are meant to support the

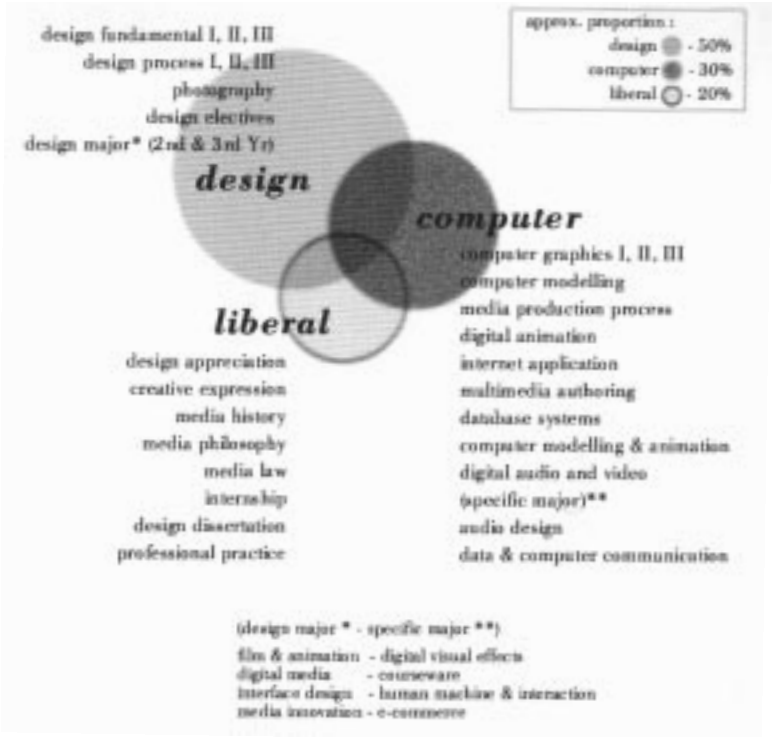

Figure 2: Emphasis of Design-Computer-Liberal subjects (approximate proportions calculated from total credit hours of the degree programme).

studio-based activities (design). For example, in the Pre-U level, a lecture session in *design appreciation* is meant to enhance the *design fundamental* (studio-based), while *computer graphics I, II and III* (computer-based) introduces computing technology, the Internet and graphics.

However, in the second and final year stages, assignments will require an integrated design-computer approach (Khong, 2000) and it is necessary for students to apply their understanding on design theory and fundamentals while contemplating the relevant digital technology. As such, the completed 'product' is to be on a digital medium.

Face-to-face method and online classes

Currently, FCM has 60 academic staff and 10 administrative staff. Presently, the overall student-staff ratio is approximately 15:1. As the student number is increasing annually, the academic staff number has to increase to maintain this ratio.

The university is currently adopting a three-semester per academic year schedule. The first semester extends over 15 weeks (including a mid-semester break), with two examination weeks thereafter. The second semester runs for eight weeks followed by a week for the examination period. The third semester is similar to the first semester, stretching over 15 weeks, with a mid-semester break, followed by a two-week examination period.

Hence, FCM treats the shorter second semester as a reflective period. However, to attain similar credit hours on a short semester requires doubling the number of teaching time. For example, a three credit hour subject may require three teaching hours per week, while a similar three credit hour subject will call for an average of six hours per week during a short semester.

Currently, the main dissemination method for all subjects is via face-to-face communication. This is especially important for studio- and computer-based subjects where the understanding and learning of skill sets and software programmes requires the lecturer's physical presence. Moreover, FCM subjects involve problem-solving tasks, drawing, creativity, computing, video, photography, sound and audio. These require hands-on tutorial sessions, and students learn teamwork through face-to-face interactions with their peers and lecturers. Figure 3 shows the typical studio environment and work ethos.

Figure 3: Typical studio-based teaching and learning environment.

However, MMU is emphasising a 'paperless' environment, and the university's Multimedia Learning System (MMLS) is leading the way in promoting online dissemination methods. This is especially for developing distance education training programmes. Senate and university board meetings are already 'paperless' in nature, and uses ISDN technology for its tele-conferencing sessions between the two campuses.

Nevertheless, the use of online material for dissemination purposes is developing rapidly campus-wide via local-area network. At the beginning, the use of online material, also known as classes online, was to supplement the material provided in the class. As the student number is increasing, the staff now have started providing material and tutorials through the online medium based upon the students' needs, i.e. approaching classes online on a student-centred approach. It is obvious for FCM's multi-disciplinary subjects that certain theoretical elements can be included online, while some are not. However, studio- and certain lecture-based sessions will still require face-to-face interaction.

Assessment methods

As the courses disseminated are multi-disciplinary in context, the assessment methods vary between the subject categories. The overall grading for design, computer and liberal subjects follow the stated format:

1 design project-based 100% (including class assignments)
2 computer coursework 70% (including mid-semester quiz), final examination 30%
3 liberal coursework 60% (including mid-semester quiz), final examination 40%

The 100% project-based assessment format for design-based subjects includes design critique sessions and portfolio reviews, as well as work review by the visiting external examiner. As such, it is compulsory for students to pass these design-based subjects, as they are the pre-requisite for continuing onto the following semester.

Assessment is also conducted on the direction, assignments and course content of individual subjects. FCM hold two internal course review sessions for all subjects during the semester as part of a course development exercise and internal validation exercise. The first, or interim, internal review session takes place in the middle of the semester; for example in week 7 of the semester. In this session, lecturers and tutors explain and confirm the course direction, class exercises and assignment deadlines. The second review session will include the discussion of staff and students' progress throughout the semester. Typically, this session will include the display of several best, mediocre and weak students' work.

FCM have a panel of external examiners and an internal, or local, panel of examiners. The panelists consist of academics and individuals from industry. These panels will meet annually with the staff and students at the end of each academic year. As such, final-year students will have to be prepared to discuss with the panelists their final-year projects, and to produce their portfolios when requested. At the end of the day, these panelists will discuss with all staff the direction and course curriculum judging from the students' work seen earlier. Furthermore, this annual event is planned to occur a few days before the annual degree show.

In contrast, all private and government-based universities in the country must have their courses accredited by the local accreditation council, Lembaga Akreditasi Negara (National Accreditation Council – LAN). As such, FCM has conducted the required course validation exercises, and have had the degree programme approved and accredited by LAN. The accreditation exercise has further encouraged the internal course review sessions as course development for quality education, and has been a motivating factor in justifying the current course content, curriculum and present dissemination methods. Nevertheless, this motion has also highlighted FCM's commitment to the university, MSC and industry, as it proved capable of conducting the accreditation exercise having only been in the higher education scene for three years.

Practical training

To strengthen maturity and promote greater depth in the degree programme, students are required to take on a practical training or internship programme lasting one semester. This programme takes place in the first semester of the third year (final year) (see Figure 1). As present student numbers are relatively small, students can apply for the industry of their choice. Students are currently working within the following industries:

1 production houses (e.g. TV commercials and advertisements)

2 IT companies (e.g. database for e-commerce and Java scripting)
3 interactive media (e.g. interactive CD-ROMs)
4 e-commerce (e.g. Internet portals and online shopping)
5 advertising agencies (e.g. online advertisements and promotional material)
6 news media (e.g. maintaining online news bulletins)
7 private institutions (e.g. maintaining courseware and online material)
8 graphic houses (e.g. digital graphic design)
9 telecommunications (e.g. designing internal, online training material)
10 animation houses (e.g. 2-D and 3-D modelling and rendering)
11 broadcasting agencies (e.g. video, sound and audio editing and mixing).

However, as many industries are moving towards the Information Age and multimedia content development, it is not surprising to note that many companies accepting our students for practical training require our students to propose various resources and facilities suitable for a multimedia working environment. This, in turn, happens to fulfill one of the university's roles to the MSC, i.e. to promote the awareness of multimedia design and content development to the nation.

However, prior to the practical training, students would have been briefed about their final year design project requirements. Thus, the practical training period in the first semester will allow the students time and space to develop ideas for their finals, which is conducted throughout the second and third semester.

Conclusion

It is apparent that the nation is still finding its way around the Information Age. In short, management and planning is vital to the MSC's success. However, to sustain long-term benefits and goals, industry must be able to commercialise competitive, innovative and quality products. At present, MMU is leading and directing the current scene for the future of the young, local IT and multimedia industries. Although each faculty has its own prerogative and significance, it is evident that there is currently a large job market for programmers, multimedia developers and content developers. Hence the demand for MMU students is evident during the practical training periods and for its graduates. However, this creates high expectations and demands, thus causing unnecessary pressure over young practical trainees and graduates.

FCM has been promoting its role and function to the MSC and industries through consultancy projects and R&D. There was little to benchmark the efforts made at the beginning, and it was difficult to gauge the dissemination methods and course content. However, through perseverance, management and planning, FCM has been able to construct a highly competitive, creative, but pragmatic, course curriculum. The obvious lack in comprehending design and technology at basic educational levels will highlight the steep transformation tasks required by FCM for an undergraduate degree level, to train and produce future 'cyberpreneurs' and content developers.

FCM have had many development cycles to its courses and curriculum, and have required its staff to conduct meticulous R&D in developing the right course content from nothingness. It has been, and still is, a rigorous and steep learning curve for a multi-disciplinary team of staff at FCM, but its graduates are already proving the point in industry.

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