

# Designing and Delivering a ‘Low-Tech’ Movie-Making Course at a ‘High-Tech’ University

D. Bruno Starrs

**Abstract**—The industry of movie-making has truly become democratized in recent years, by which I mean it is no longer solely the province of those with access to expensive, high-end technology. With this realization I set out in March 2014 to design and deliver a two module syllabus for students at Institut Teknologi Brunei, a leading government university of technology in Asia, at which there were no audio visual production facilities or equipment yet in place. Innovatively, the course would require students to make short movies using nothing more than the technology they already had at hand: the video cameras in their own mobile phones, tablets etc.; the free editing software available on their own computers; the improvised recording studios they could construct in their private living spaces; and their access to free online sites for distributing their work such as Youtube, Vimeo and Facebook. Students were encouraged to use the CGI, 3D modeling, digital audio processing, special effects and motion graphics skills learned in additional computer-based modules on offer at this other-wise ‘high-tech’ university but were not assessed according to the technical proficiency of their finished AVPs, rather their intentions regarding the conventions and language of cinema were what mattered and what were evaluated. The module specifications, including aims, content and desired learning outcomes - for each of the two modules are described in this paper, as are two representative ‘low-tech’ movie-making tutorials specifically designed for the course.

**Index Terms**—Democratization of film, low-tech film-making, low-tech movie-making, university film course.

## I. INTRODUCTION

In March 2014 I commenced full-time employment at the Institut Teknologi Brunei (ITB), a leading government university of technology in South-east Asia well-known for specializing in oil and gas science, engineering and related technology (the source of Brunei’s much-envied wealth). I began my contract of employment with the brief of designing and delivering the syllabi for a pair of consecutive one semester-long modules in Audio Visual Production (AVP) for undergraduate students studying their Bachelor degree in Multimedia, with classes expected to commence in August 2014. Having a coursework Masters in film-making and a research PhD in cinema studies in hand and with previous experience teaching cinema studies at a tertiary level in Australia I felt sufficiently capable of addressing this task, but for one major drawback: the university had never before offered AVP courses in and it had no AVP department,

neither for staff use nor for access by students.

There were no dedicated AVP personnel, no video cameras, no recording studios, no lighting equipment, no microphones, and no sound mixing consoles or editing suites at ITB (although submissions will be made to supply this equipment and facilities eventually, after tenders have been called for and the usual bureaucratic hurdles overcome). However, students were, I was assured at my initial job interview in 2012, well trained in Computer Generated Imagery (CGI), 3D modeling, digital audio processing, special effects and motion graphics thanks to other ‘high-tech’ multimedia-oriented, computer-based modules on offer at ITB, which meant they could easily create eye-catching visual effects, interstitials and ‘stingers’, titles, end credits, graphics etc. and besides, the administrative powers who interviewed me stressed, the university was looking for someone to teach the fundamental conventions of artistic cinematic language and not necessarily the high end technology of movie-making. This rare ambition led them to seek a candidate for the rather unusual title I was eventually given: Senior Lecturer in Cinematology (the little-known term ‘cinematology’, deriving from the Museum of Modern Art and US university campuses in the late 1950s [1]. refers to the teaching of cinema as an art form and means of expression, with particular focus on film history, genre and stylistic movements and not so much on the teaching of technical skills, and is entirely dissimilar in meaning to the better-known term ‘cinematography’), with a salary migration presently being undertaken which will see me eventually assigned the rank of Assistant Professor in Cinematology.

Perhaps I should not have been surprised by the absence of film or video-making infrastructure available at ITB, for although established government-funded institutions such as Radio Televisyen Brunei have produced several educational and nature related videos locally, the nation’s government has, until recently, apparently shown little interest in cultivating the cinematic medium in Brunei. Even low budget, independent, digital film-making in the community has been virtually non-existent. Tilman Baumgartel writes in 2012: “Vietnam, Laos, Cambodia, Myanmar, East Timor and Brunei have for a number of different reasons (state censorship, lack of film culture, extreme poverty) not participated in the recent upsurge of filmmaking” [2]. Why, I asked myself, has Brunei failed to ride the wave known as the digital film-making revolution, confirming Jose F. Lacaba’s opinion from 2000 that: “Brunei has no film industry to speak of”? [3]. could it be, as Baumgartel suggests, “state censorship” is responsible? Undeniably, Brunei is dedicated to the religious precepts of Islam and this certainly has a strong influence on the population, possibly forcing Bruneians to distance themselves from allegedly ‘decadent’

Manuscript received March 18, 2015; revised May 28, 2015.

D. Bruno Starrs is with Institut Teknologi Brunei, Brunei Darussalam (e-mail: db.starrs@gmail.com).

western industries such as film-making, but the country's first ever feature film was in fact a government-funded, non-commercial work of Islamic propaganda produced in 1968 by the Ministry of Religious Affairs entitled *Gema Dari Menara* ('Voice from the Minaret') and last year the nation's first commercial feature film, *Yasmine* (Siti Kamaluddin 2014), a movie featuring a pro-women empowerment narrative, was funded by the government and released to great acclaim [4]. Could it be – as Baumgartel also suggests – due to a “lack of a film culture”? Foreign cinema is popular in Brunei and tickets are cheap, and despite its small population, there was an attempt to initiate an international film festival in 2000 [4], hence this reason is unlikely. It certainly cannot be due to “extreme poverty,” for Brunei is an oil-rich, highly developed, ‘first world’ country and many of its mostly middle class citizens have access to personal digital film-making technology including high end video cameras and multi-function mobile phones. Indeed, the few disadvantaged Bruneians there are receive generous welfare benefits, whereas waged workers pay no income tax and enjoy one of the highest GDP per capita in Asia. The populace of Brunei certainly inhabits neither technological backwater nor cultural desert. The only possible explanation for the nation's absence of a film or video industry I can propose is the delay in implementing appropriate AVP courses in its government institutions of technical education, a delay that my appointment at ITB would hopefully see addressed.

Thus, my somewhat blasé proposal to ITB in my job interview that, as a solution to the problem of no high-tech AVP equipment and facilities being in place, I design and deliver a ‘low-tech’ AVP course, was well received. But it would be a definite challenge, and after the initial interview I was uncertain about whether or not I could really meet it. Indeed, I was ambivalent about accepting their subsequent generous offer of employment - but I finally decided I still wanted the unusual job. So as I prepared to move from my home in Australia to the Sultanate of Negara Brunei Darussalam, I wondered if the much hyped democratization of movie-making [5]-[7] - the revolution brought about not just by the change from expensive celluloid-based film to free digital video commenced in the 1990s, but the tectonic plate like shift [6] represented by the recent massive reductions in cost of audio visual recording equipment and its subsequent inclusion in everyday issue mobile phones and computers, plus the ease with which AVPs can now be uploaded and distributed on social media channels such as Youtube, Vimeo and/or Facebook at no cost - would actually permit such a course of just two modules to work at ITB. That is, if successful, the course would equip students with an understanding of the time-honored cinematic conventions and language necessary for making AVPs which engage emotionally with audiences, even if the technical specifications and standards are not necessarily the best. Unlike probably every film school elsewhere in the world, their only equipment and facilities would be the low-end domestic technology they already had at hand: the video cameras in their own mobile phones, tablets etc.; the free editing software available on their own computers; the improvised recording studios they could construct in their private living spaces; and their access to online social media for distributing their work. Fortunately, it now seems the

administration at ITB was exercising not inconsiderable foresight and vision in risking such a low-tech endeavor.

## II. DESIGNING AND DELIVERING THE MODULES

The first thing I would have to do was try to expunge the word ‘film’ from the ITB students’ vocabularies. Hardly anyone makes movies by chemically processing analogue celluloid anymore: Even with Hollywood's mega million dollar budgets, it is nearly all digital video. ‘What's the difference?’ my eager students all asked. The difference is that ‘film’-making is prohibitively expensive for mistake-making movie-making novices. The cost of acquiring film stock is significant in itself, but with laboratory processing fees added and the non-reusability of celluloid, it is not only an obsolete medium but an illogical choice for error-prone students to work with. Digital video (DV), on the other hand, costs students nothing to acquire or process. DV welcomes learning through the reliably pedagogical process of trial and error. Trial and error, however, is not welcome as a learning approach when students have limited access to equipment, as is frequently the case in tertiary institutions even if they do have well-stocked AVP departments. For example, in the coursework Masters in Film and TV I completed at Australia's eminent privately funded tertiary institution, Bond University, in 1999, I learnt not only the now archaic and useless skill of changing canisters of film in a dark bag but also how to use the million-dollar facilities of film cameras and video-making equipment owned by the university. Unfortunately, I had to compete with other students for access: I was required to book the desired equipment in maximum two hour blocks. There were limits to the time I could be in possession of borrowed equipment and, in reality, the time allocated was hardly enough to complete my assignments, let alone experiment in any extra-curricular projects I had in mind. Later, as a PhD student in cinema at Queensland University of Technology studying auteurism, I wrote:

In the early 21<sup>st</sup> century, there is an expectation that with the ready availability of low-cost, high-definition video cameras and cheap editing software, more and more *auteur* ‘films’ will be produced. These ultra low cost videos may well reflect an individual director's unique ideas and world views and hybridize *genres* beyond recognition, freed as they are from the commercial restraints of monolithic studios and profit-driven producers as a new age of the democratization of the film industry commences, writ small on the mobile telephone's screen [8].

Subsequently, I was motivated by my personal experience as a film and video-making student in Australia to do things differently at ITB. I wanted to give my students every opportunity to learn through trial and error, with neither time nor financial constraints as they “writ [their AVPs] small on the mobile telephone's screen”. My contractual obligation was to teach a class of approximately thirty second year Creative Computing students in the School of Computing and Informatics for a two hour lecture and a two hour tutorial once per week over a fourteen week semester in the module entitled “CRC2AVP: Introduction to Audio Visual Production”. In the second semester of their instruction they would be my students in the module “CRC2AAV: Advanced Audio Visual

Production”. A quick show of hands at the first lecture confirmed my suspicion: every student was in possession of their own video camera on board their mobile phones and all had sufficient computing hardware at hand to access free video editing software. I was buoyed by this confirmation of

my theory but still dampened by the reality of my own teaching facilities: I was given access to an office and a very comfortable, brand new, air conditioned lecture theatre with a large screen and public address system ... but nothing else.

TABLE I: “CRC2AVP: INTRODUCTION TO AUDIO VISUAL PRODUCTION” DESIRED LEARNING OUTCOMES

Study Area	Study Area Defined.	Learning Outcomes: Knowledge & Understanding	Learning Outcomes: Application	Learning Outcomes: Analysis & Evaluation	Learning Outcomes: Creativity & Design
Maths and Science	The Science and Mathematics principles underpinning the study of Computing and Informatics	N/A	N/A	N/A	N/A
Core Computing	The core subjects and principles of the relevant Computing and Informatics discipline	N/A	N/A	N/A	N/A
Best IT Practice	Best practice of IT skills combining theory and experience	- Identify, understand, describe and master limitations and potential of available AVP technology.	- Use AVP technology at hand to produce broadcast quality AVPs (of a beginner’s standard).	- Submit group work tutorials and assignments for class feedback and critique. - Submit group work assignments for marking by module coordinator.	- Overcome limitations of available AVP technology through creative ingenuity and improvised solutions.
Design (IT)	Creation, design and development of IT products, processes or systems	N/A	N/A	N/A	N/A
IT & IS Management	Management methods necessary to achieve objectives in IT production and projects	- Identify, understand, describe and master principles of IT and AVP roles within the group.	- Rotate technical IT and AVP roles between group members.	- Conduct group meetings to evaluate progress and identify obstacles.	- Design and create original works based on individual research and group ‘brain-storming’.
Social & Environmental	Principles of professional and ethical conduct regarding sustainable development; health and safety; and environmental impact	- Identify, understand, describe and master principles of online AVP distribution, copyright issues and legal obligations.	- Obtain permissions and credit copyright owners appropriately. - Obtain signed talent releases from actors. - Distribute AVPs to social media. - Nurture online community of AVP viewers.	- Appraise and respond to (or ignore) social media commentary as appropriate.	- Design and create appropriate titles, ‘stingers’, graphics, end credits etc. for AVPs.
Transferable Skills	The development of lifelong learning skills in oral and written communication, team working, problem solving, and information processing	- Identify, understand, describe and master the universal principles of writing engaging protagonists and antagonists. - Convey to an audience the intended narrative of the AVP.	- Construct useful storyboards before work on each AVP. - Record quality, clean, intelligible audio. - Record a variety of interesting visuals.	- Submit group work assignments for class feedback and critique. - Submit group work assignments for marking by module coordinator.	- Design and create original works based on individual research and group ‘brain-storming’.
Art & Humanity	The development of an appreciation of arts, aesthetics and other cultures. The development of the capacity to make informed ethical choices.	- Identify, understand, describe and master principles and conventions of film language, including those from non-English or Malay speaking markets.	- Apply for ethics committee approval where necessary. - Use and exemplify principles of film language to produce AVPs (of a beginner’s standard).	- Submit group work tutorials and assignments for class feedback and critique. - Submit group work assignments for marking by module coordinator.	- Design and create original works based on individual research and group ‘brain-storming’.

Hence, I designed and wrote syllabi emphasizing an understanding of the conventions of cinema, using examples (i.e. video clips) of movies produced as long ago as 1896. None of the young students had seen any classics of cinema: certainly nothing produced before 1970. Although there are numerous modern cinemas in Brunei, their fare never deviates from the mass consumption formats of mainstream Hollywood (although occasionally something inventive from the Malaysian cinema industry is screened. Note, Malay is the national language of Brunei although English is widely spoken and is also the language of instruction at ITB). The Aims and Content for the first module, “CRC2AVP: Introduction to Audio Visual Production,” for which there was no enrolment prerequisite, were:

1) Aims: “CRC2AVP: Introduction to Audio Visual Production”

This module will teach students the fundamental conventions and language of AVP, using examples from the history of cinema as a guide. The emphasis will be on understanding how and why an audience engages emotionally with the narrative of an AVP and not the technical expertise required. Students will learn the theoretical and practical knowledge necessary to produce and distribute three short fictional AVPs online, using readily available, low cost technology.

2) Summary of Content: “CRC2AVP: Introduction to Audio Visual Production”

This module covers the following topics: The Digital Revolution; Editing for Narrative, Empathy and Identification; Hollywood and the Studio System; Style, Genre and Auteurism; The Power of Sound; Principles of Pre-production; Principles of Post-production; Careers in Cinema; The Star System and Celebrity; Mainstream Cinema and the Three Act Structure; Non-mainstream Cinema - Machinima and Viral Videos; Action Cinema; The Future of Cinema.

Assessment was to be 60% from three group-work-produced five minute AVPs submitted online and 40% from an end of semester exam and would evaluate the desired Learning Outcomes for the module “CRC2AVP: Introduction to Audio Visual Production” (see Table I for a condensed version of these). Note: of the five standard areas of learning, ‘Maths and Science’, ‘Core Computing’ and ‘Design (IT)’ were not addressed: students were not expected to do anything more than use the standard issue computing facilities available on their general purpose mobile phones, tablets or laptops, and these are generally configured to be user-friendly for the average member of the public, i.e. one who does not boast advanced skills in mathematics, science or computing. Students were not assessed as to the technological expertise of their finished productions: their AVP assignments were submitted with essays and storyboards describing what they were trying to achieve and why, and the three components thus formed the basis for marking their work. The Learning Outcomes were to be achieved via the Weekly Teaching Schedule (see Table II for a condensed version).

After a semester break, students returned for the second module of the course. As per the first module, assessment was to be 60% from three group-work-produced five minute AVPs submitted online and 40% from an end of semester

exam. The Aims and Content for the second module, “CRC2AAV: Advanced Audio Visual Production,” for which the prerequisite for enrolment was the successful completion of “CRC2AVP: Introduction to Audio Visual Production,” were:

1) Aims: “CRC2AAV: Advanced Audio Visual Production”

This module will teach students the fundamentals of budgeting, pitching and producing a series of documentary AVP episodes suitable for television or web broadcast using readily available, low cost technology, consisting of one or two studio-based film review AVPs and one or two location-based AVP (appropriate for entry into industry-oriented competitions such as The Brunei Times’ “I Love Brunei” contest).

2) Summary of Content: “CRC2AAV: Advanced Audio Visual Production”

This module covers the following topics: Budgeting an idea; Pitching an idea; ‘Stingers’ and basic graphic design for interstitials; Title and end-credit design; ADR and Foley sound effects; Storyboarding documentary content; Directing actors; Acquiring permissions; Accessing archival materials; Studio techniques; Lighting design; Voice-over narration; Nurturing online communities and fundraising; Marketing and distributing episodes.

The desired Learning Outcomes for the module “CRC2AAV: Advanced Audio Visual Production” were identical to those of “CRC2AVP” except that the standard of student’s final AVPs expected was advanced and not beginner. The Learning Outcomes for CCR2AAV were to be achieved by delivering the Weekly Teaching Schedule (see Table III for a condensed version of this).

Lecturing on the theory of cinematic language and conventions was one (important) thing, but I also needed to bridge the gap between theory and practice via tutorials. Space does not permit me to describe here all the tutorials I led, but I will describe two from “CRC2AAV: Advanced Audio Visual Production” which I feel addressed the low-tech aspect of the modules effectively and were representative of my pedagogical approach overall. Both tutorial exercises were communicated to students via the medium of the storyboard (hand-drawn by myself) and were designed to guide students in their group-work assignments to create an episode for a Youtube channel of documentaries entitled “Movie reviews @ITB”. Each finished AVP was to have identical titles, graphics and ‘stingers’ (interstitials) to the work produced by others in the class (after an in-class competition to determine the best) and would be a mostly studio-based documentary in which two student presenters reviewed a new release movie. Students would include clips of the movie in question (usually provided free by the Hollywood studio’s marketing departments online) and ‘vox pop’ (i.e. voices of the people) interviews with patrons leaving the cinema. On-screen graphics would illustrate the presenter’s ratings for the movie.

The first tutorial exercise required students to shoot a scene in the foyer of their local suburban Cineplex for use in an establishing shot sequence (Note, the students rehearsed using an ITB lecture theatre). The emphasis was on learning to move their handheld mobile phone cameras smoothly to

replicate 1. A tilt shot on a fixed tripod and 2. A tracking shot on wheels (i.e. a ‘dolly’), followed by 3. A shot-reverse-shot interview set-up with a cinema patron (i.e. a vox pop) including a ‘noddy’ as a cutaway shot to hide an edit (see Fig. 1).

TABLE II: “CRC2AVP: INTRODUCTION TO AUDIO VISUAL PRODUCTION” WEEKLY TEACHING SCHEDULE

Week No	Topic
1	Introduction to module objectives and assessment; Shooting with mobile phones/tablets/laptops; Editing with free software; Distributing/submitted tutorial exercise and finished AVP assignments online; Cinema and the emotions; The digital revolution.
2	Encouraging empathy: Editing for the screen; Eight cinematic conventions; Basic storyboarding.
3	Classical Hollywood cinema: Shooting for the screen – standard shots; Hollywood and the Studio System.
4	Non mainstream cinema – German expressionism, Art House and experimental.
5	The history and development of auteur theory.
6	The history and development of auteur theory continued – criticisms; The new Hollywood auteurs (1990s on).
7	The genre film - westerns, horror, romantic comedies, true crime and musicals.
8	Genre case study - True crime documentary in TV and film.
9	Careers in AVP; Movie reviewing; Gaining work experience vs. independent ventures; The AVP industry in Brunei.
10	Mainstream feature films: The three act structure; Scriptwriting for identification with the protagonist and the narrative arc; The star system and celebrity.
11	Non-mainstream cinema: Machinima; Viral videos; AVPs and the Internet.
12	Action cinema: The martial arts cinema of Hong Kong and Brunei.
13	Protest cinema: Social commentary.
14	The future of cinema: Dream films; Imax; 4D cinema.

TABLE III: “CRC2AAV: ADVANCED AUDIO VISUAL PRODUCTION” WEEKLY TEACHING SCHEDULE

Week No	Topic
1	Introduction to module objectives and assessment. Revision of CRC2AVP content.
2	Film financing: Planning your micro-budget film. In-class ‘Title Competition’ and ‘Stinger Competition’ for “Movie Reviews@ITB” / “I Love Brunei” AVPs (using basic graphic motion skills). Shooting “Noddies,” “Phantom Ride” and “Crane” Shots.
3	Pitching an idea: Finance alternatives such as Crowd Funding. Shooting establishing shots.
4	‘Title Competition’/‘Stinger Competition’ winners for “Movie Reviews@ITB” / “I Love Brunei” AVPs. Utilizing results of in-class competitions for student’s AVP assignments. Compiling shot lists.
5	Episode consistency in style through titles, stingers and end-credits.
6	Storyboarding documentary content. Compiling archival and stock footage for “I Love Brunei” entries.
7	Storyboarding documentary content cont. Field trip to Brunei National Archives.
8	Scripting vs. improvisation. Directing actors, presenters and extras. Cutaways. Re-enactments.
9	Acquiring permissions. Talent releases; Delayed payments and share profit agreements for actors. Copyright issues. Location shooting issues.
10	Studio techniques. Three point lighting. Visual variety in camera angles and shots.
11	Studio techniques cont. Microphones. Rehearsals.
12	Post-production techniques. Voice-over narration. Additional Dialogue Recording (ADR); Foley effects. Background music.
13	Marketing and distributing episodes. Internet virology. Online communities and followings.
14	Marketing and distributing episodes cont. Screening of selected students’ work.



Fig. 1. Tutorial exercise – Tilt and tracking shots plus shot-reverse-shot interview set-up (including noddy).

The second tutorial exercise required students to practice using three point (i.e. high key) studio lighting in their improvised studios at home, and to feature emotionally suggestive low key lighting and home-made ‘gobos’ (i.e. cardboard cut-outs) to create suggestive shadows behind their student presenters in their comedic review of a horror film (see Fig. 2).

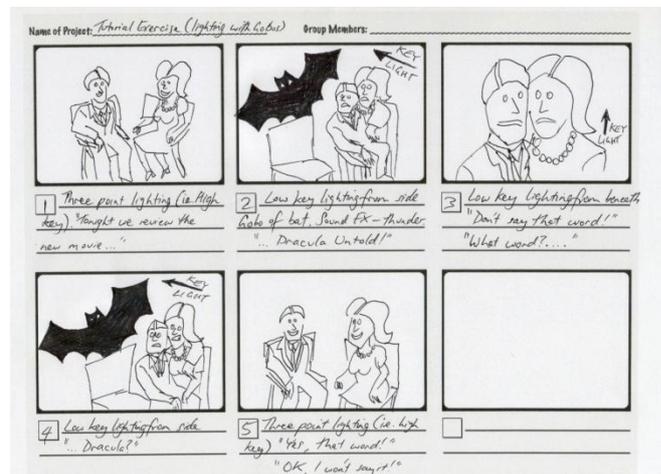


Fig. 2. Tutorial Exercise – Three point lighting, low key lighting and gobos.

### III. CONCLUSION

Did the ITB students develop, through their participation in these two modules, an understanding of the cinematic conventions and language necessary to make AVPs which engage emotionally with audiences, even if the technical specifications and standards achieved were not the best? Certainly the students enjoyed the experience of participating in the two modules, if the anonymous Student Evaluations collected and compiled by the ITB administration’s Quality

Assurance Unit are a valid indication: approval for the course was very high and several students commented that “CRC2AVP: Introduction to Audio Visual Production” and “CRC2AAV: Advanced Audio Visual Production” were amongst their favorite modules studied to date at ITB.

In the real world of the AVP industry, I can note that several of the student’s AVPs have been earmarked for entry in the 2015 *Brunei Time I Love Brunei*” video awards (conflict of interest alert: I was a judge for the 2014 awards and may perform that role again) but the 2015 competition has yet to be held and none have therefore garnered prizes at this time of writing. Likewise, unsurprisingly, none have been optioned by major Hollywood studios. Nevertheless, there have certainly been many viewings of students’ AVPs posted online- but alas, none have yet gone ‘viral’. Their emotional impact upon audiences remains a subject of mere speculation.

Hence, overall, it is difficult for me to objectively gauge the level of expertise students gained in making their AVPs engage emotionally with the viewer. Intuitively, however, I feel that my innovative course of two low-tech movie-making modules worked and that their design represents a worthwhile and viable solution to the problem presented by a university (such as ITB) having little to no AVP equipment and facilities in place (although my students soon identified that professional lighting equipment would have been a valuable investment, being one area of specialised equipment which they could not easily improvise using their readily available domestic technology). Institutions cautious about investing in soon-to-be obsolete AVP technology might also see my low-tech movie-making course as a sound alternative.

However, I am certainly not the only academic realising the potential for delivering high-impact low-tech movie-making courses, even if no-one I’m aware of elsewhere has designed and delivered such a low-tech university course themselves. Paul Howe, over a decade ago, wrote: “With the huge increase in the number of film and media schools and the democratization of film-making made possible by new low-budget technology, there have probably never been more shorts produced than now” [6]. Such low-budget, short duration AVPs can serve as ‘calling cards’ for aspiring directors and other creative crew hoping to secure bigger roles or may even see the feature film version of their short optioned for an eventually well-funded, high-tech studio production, as happened recently with Mischa Rozema’s short film *Sundays*, which after a festival screening was almost immediately optioned by Warner Bros to be made into a high-tech feature [9].

Indeed, the potential for low-tech movie-making is not limited to low-tech finished short movies, either: A new low-tech, full-length feature film shot entirely on an iPhone recently screened at Sundance Film Festival in the US to great acclaim. Director of *Tangerine* (2015), Sean Baker, credits his use of three low-tech items of new technology for the success of his iPhone movie: a US\$8 app called Filmic Pro that allows fine-grained control over the focus, aperture and colour temperature; a Steadicam geared to the light weight of the iPhone; and a set of anamorphic adapter lenses. The lenses were prototypes from Moondog Labs and Baker said they were essential to making *Tangerine* look like it belonged on a big screen [10]. Similarly, established Hollywood film

director Martin Scorsese effused recently about making low budget films on another popular item of everyday technology, the iPad [11].

The commercial movie industry and the cinema-viewing world, it seems, is ready for the next revolution in cinema, one in which the initial dreams regarding the democratization of film may be fully realized via a motivated student’s enrolment and participation in a low-tech university AVP course. Now, using my example forged with the support of the forward-thinking Institut Teknologi Brunei, other universities can also deliver a two module course on low-tech movie-making even if their facilities at hand are not high-tech. They can confidently provide to budding cinema artists a one year, two module course that effectively encourages such students to ride this digital movie-making revolution and which, here in Brunei at least, can do much to eventually counter Lacaba’s opinion that the Sultanate “has no film industry to speak of” [3].

#### REFERENCES

- [1] L. Grieveson, “Discipline and publish: The birth of cinematology,” *Cinema Journal*, vol. 49, no. 1, pp. 168-176, 2009.
- [2] T. Baumgartel, *Independent Cinema in Southeast Asia*, Singapore: National University of Singapore Press, 2012.
- [3] J. F. Lacaba, *The Films of ASEAN*, ASEAN Committee on Culture and Information, 2000.
- [4] D. B. Starrs, “The national imaginary of Bruneian cinema and *Yasmine*,” in *Seen and Unseen: The Visual Culture of Imperialism*, S. Fotouhi and E. Zeiney, eds., Kuala Lumpur: Malaysian National University Press, 2015.
- [5] P. Brophy, *Cinesonic: The World of Sound in Film*, Sydney: AFTRS, 1999.
- [6] P. Howe, “Shorts and the real world — The relationship between the short and the feature film,” *Journal of Media Practice*, vol. 4, no. 3, pp. 177-180, 2004.
- [7] J. Steele. (2011). Power to the people: The democratization of film. *Film Closings*. [Online]. Available: <http://filmclosings.com/2011/02/power-to-the-people-the-democratization-of-film/>
- [8] D. B. Starrs, *Aural Auteur: Sound in the Films of Rolf de Heer*, PhD thesis, Kelvin Grove, Brisbane: Faculty of Creative Industries, Queensland University of Technology, 2009.
- [9] T. J. Dietsch. (2015). End of the world Sci-Fi short film *Sundays* destroying its way to the big screen. *Geek.com*. [Online]. Available: <http://www.geek.com/news/wb-wins-bidding-war-for-sci-fi-destructive-on-short-film-sundays-1618991/>
- [10] C. Newton. (2015). How one of the best films at Sundance was shot using an iPhone 5S. *The Verge*. [Online]. Available: <http://www.theverge.com/2015/1/28/7925023/sundance-film-festival-2015-tangerine-iphone-5s>
- [11] P. Bernstein. (2015). Attention, film-makers: Martin Scorsese shows how to make a film with an iPad. *Indiewire.com*. [Online]. Available: <http://www.indiewire.com/article/attention-filmmakers-martin-scorsese-shows-how-to-make-a-film-with-an-ipad-20150225>

**D. Bruno Starrs** was born in 1962 in Adelaide, Australia and lives in Bandar Seri Begawan, Brunei Darussalam. He is a senior lecturer in cinematology at the Institut Teknologi Brunei and his research interests include cinema, aboriginal Australian issues, pop culture and creative writing. Starrs holds the masters degrees from Bond University and the University of Melbourne and a PhD from Queensland University of Technology in Australia. He is the author of numerous papers on cinema, aboriginal Australian issues and pop culture. He has lectured at universities in China, Thailand, Australia and Brunei and was a 2009 research fellow at the National Film and Sound Archive in Canberra, Australia. He is a published novelist and playwright and is presently pursuing his second PhD, a research thesis in creative writing at Murdoch University in Perth, Western Australia with the associated creative work component being a full-length novel based in the political milieu of Canberra’s Aboriginal Tent Embassy, entitled “The Bullroarers”.