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Journalism students' experience of mobile phone technology: implications for journalism education

Paul Bethell
Deakin University

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Paul Bethell
Deakin University, Victoria, Australia
paul.bethell@deakin.edu.au

This study investigates journalism students' usage of mobile phone technology when they begin their university studies and considers the implications of these baseline data for journalism education. This paper reports on the findings of three consecutive annual surveys of first year journalism students about their use of the applications available on their mobile phones. The surveys confirm that as well as using their phones to text and call, many are making video calls and most have shot photos and videos on their phones by the time they arrive at university. Many are using their phones to send or publish these images. More than half of the students now go online on their mobile phones. This evidence will inform journalism educators seeking to update their teaching practices and curricula.

Introduction

'Generation Y' university students are dubbed as "digital natives" (Prensky, 2001a) because, unlike previous generations of students – and unlike many of their teachers – the digital world is their natural habitat. For journalism academics, a focus on the digital skills of the present generation of students is increasingly important. It parallels a period of radical change in the media industry with digital technology inspiring and creating new ways of working, new patterns of consumer behaviour and new business models. The convergence of traditionally discrete media formats into multimedia delivered to digital devices continues to evolve.

Journalism educators need to be responsive to the changing media environments and new job requirements of by news media employers. It is also important that educators understand the changing skill-sets of incoming cohorts of students who are likely to use mobile phones as tools for digital newsgathering, creating and distributing news contents. To address this in their teaching, journalism educators need an evidence base of their students' skills in using mobile phone applications at the start of their university studies.

This study details and analyses the results of three consecutive surveys of mobile phone use by first year journalism students at Deakin University in Australia. The primary objective is to provide journalism educators with an evidence base of digital mobile skills among new journalism students, which could then be used to inform the development of teaching practice. This evidence base will comprise findings on the extent of journalism students' familiarity with functions such as communicating by text message, voice calls and video calls; how they use their mobile phones to go online; the extent that they use photo and video recording functions on their mobile phones; and the extent that they use their phones to publish or communicate these photos and videos either by posting them online or sending them from their phones. With this evidence base, this paper argues that digital mobile phone technology should play an increasing role in the teaching of journalism students.

Background

The digital mobile phone allows today's journalists to report or publish information by voice, video, photographic image and text. Increasingly, the highly portable device connects journalists to the internet. With improved network coverage, the mobile phone facilitates reporting in sound, video and text direct from the scene of a breaking story. Thus, within a single digital device, today's journalists have all they need to report and publish in the multimedia environment from many parts of the world.

Global news organisations such as Reuters and the BBC have been training their journalists to become 'Mo-jos' – mobile journalists – for a number of years now, using mobile phone technology to report on stories around the world (Luft, 2007, Quinn, 2008).   News organisations are also increasingly using 'user-generated' mobile phone content provided by 'citizen journalists' who are on the scene of breaking stories (Noguchi, 2005; Huck, 2005; Quinn et al, 2008).

The growth in mobile phone use globally means that news and information content prepared specifically to be read on a mobile phone is arguably a critical growth

area for the journalism industry. The United Nations' agency for information and communication technologies predicted that four billion people, more than half of the world's population, would have used mobile phones by the end of 2008 (Wray, 2008). As the industry searches for a new business model as advertising revenue from traditional media such as print declines, the preparation of news content for delivery direct to mobile phones will be a significant area of growth (Bailey, 2009, Butcher, 2009).

Generation Y students and mobile digital technology

'Generation Y' commonly refers to people born between 1979 and 1994 (Allerton, 2001). This generation currently comprises the majority of current cohorts of students. In a study of American students' experience and usage of digital technology, Prensky dubbed the Generation Y students as "digital natives" because they possess a natural and instinctive ability to use digital technology (Prensky, 2001a, 2001b, 2007). He contrasted this with the generation of so-called "digital immigrants", those for whom digital skills had to be learned and did not come instinctively or as part of their upbringing. Prensky (2007) notes that educators need to recognise the superior digital skills of their students and harness them in their teaching. The current generation of university academics, however, are likely to be "digital immigrants".

In recent years in Australia, Gerard Goggin (Goggin, 2006, 2007, 2008) from the Centre for Social Research in Journalism and Communication at the University of New South Wales has looked at mobile phone culture among the Generation Y. Other researchers at Charles Sturt University, Deakin University and University of Melbourne have attempted to measure the level and quality of engagement of Generation Y students with digital technology.

Cameron (2005) from Charles Sturt University surveyed all first-year communications students during their first week on campus for a snapshot of their digital media use. The university received 210 responses (162 female and 48 male, with an average age of 18 years). The study noted that 99 per cent of the students had mobile phones. However, the study but did not explore the students' use of mobile phones in great detail, but asked separate questions about their ownership of digital photographic and video cameras.

A similar but smaller survey in 2006 of 74 second and third-year journalism students at Deakin University in Victoria also found that all those surveyed had a mobile phone, but again it did not explore their use of these phones (Quinn, 2006). However, in the same year, researchers at the University of Melbourne's Biomedical Multimedia Unit led by Gregor Kennedy did a more comprehensive study of the digital skills and experience of more than 2000 incoming first-year students. While this study identified similar characteristics of Prensky's "digital natives" in Australian students, it also found considerable variations. "While some students have embraced the technologies and tools of the 'net generation', this is by no means the universal student experience." (Kennedy et al. 2008)

Kennedy et al (2008) found that around 96 per cent of students used their mobile phone to call and text; 70 per cent took images, but the survey did not differentiate between the students' use of digital photo and video functions. It also found that just

over half the students sent these images to other people from their phones (although, again, photo and video images were not differentiated) and a third of students used their phone to access the internet. The first year students surveyed came from nine of the ten university faculties. The data was analysed collectively and not by specific faculty or discipline area. Thus, the study does not provide data from specific cohorts of students such as media, communication or journalism students.

The focus in recent research on the teaching of journalism has centred around transformations in the media industry as a result of digital communications technology. There is also a growing body of research on how mobile technologies can be used to develop new ways of teaching and learning in areas such as education (Australian Teaching and Learning Council, 2008), curriculum design (Steel et al 2007, Birge 2004) and media convergence curriculum (Auman and Lillie, 2008). Emmett (2008) has also identified mobile technologies as the most critical platform for news content delivery and the implications for journalism.

Thus, the imperative of finding out from incoming journalism students their "native" skills and instincts for using digital communications technology. If this can be clearly benchmarked, journalism educators can more effectively decide how they can best develop and shape these abilities and aptitudes in their students in order to equip them with the skills they will need to enter the profession.

This study is premised on the working assumption that digital mobile phones could be usefully incorporated into the teaching of journalism students to enhance their newsgathering and reporting skills.

Methodology

During weeks four and five of semester one in April 2007 a questionnaire was distributed to first-year journalism students taking a compulsory unit at Deakin University. The questionnaire was developed after consultation with journalism education colleagues and a pre-test with five student participants.

Deakin University has three campuses. The largest cohort was from Geelong, with smaller cohorts at the Burwood and Warrnambool campus. Students were asked to complete the voluntary anonymous survey in class. The final questionnaire asked students to circle Yes/No and respond to multiple-choice questions about aspects of their mobile phone use in the past 12 months and occasionally to add more detailed information in open-ended responses. Not all students attend classes consistently, so it was not possible to obtain completed surveys from all students.

In April 2007, from a total of 338 on-campus students, 245 completed the survey, a completion rate of 72 per cent. 67 per cent of respondents were female. In May 2008 the same survey was conducted with first year students in the same journalism unit at the Geelong and Burwood campuses. 128 completed the survey of a total of 277 students, a completion rate of 46 per cent. 74 per cent were female.

In April 2009, students studying the same journalism unit were asked to complete the same survey at all three campuses in Geelong, Burwood and Warrnambool. 204 out of 334 students completed the survey, a completion rate of 64 per cent. 72 per cent were female. The data from all three years' surveys were hand-coded and analysed.

Data Analysis

In all three years of the Deakin surveys the majority of the participants were from 'Generation Y'. In 2007 and 2008, 92 per cent were aged 21 or under. In 2009, 89 per cent were aged 21 or under.

Only one student out of the 577 students surveyed across all three years did not use a mobile phone. This is in line with the findings of the previous surveys at Charles Sturt, Deakin and Melbourne Universities.

In all three surveys, of the students who had mobile phones, all but one sent or received text messages on their phones. However, not all students used their phones for voice calls. 93 per cent said they used the phone for voice calls in 2007, 95 per cent in 2008 and 98 per cent in 2009. One in five of those surveyed used the phone for video calls in 2007 (21 per cent). This figure fell to 16 per cent in 2008 and just 14 per cent in 2009.

The number who reported using the phone for emails grew over the three surveys, but was still a minority. One in ten used the phone to send or receive emails in 2007 (10 per cent); slightly more reported using the phone for emails in 2008 (12 per cent). But in 2009 nearly one in five (18 per cent) reported using the phone for emails. Very few students used their phone for all the possible digital services (voice calls, texts, video calls and emails). Only four per cent did this in 2007 and 2009 and only two per cent in 2008.

Nearly nine out of ten took photos with their phones (89 per cent) in 2007; slightly more reported doing so in 2008 (92 per cent) and nearly all (96 per cent) did so in 2009. These students were then asked what they did with these photos. A minority did not do anything with the photos apart from just saving them in the phone (33 per cent in 2007, 26 per cent in 2008 and 30 per cent in 2009). It was common for students to send the photos to someone else from the phone – 59 per cent said they did this in 2007 compared to 64 per cent in 2008 and 49 per cent in 2009.

The second most common action was to download the photos to a computer – 39 per cent did this in 2007, 47 per cent in 2008 and 49 per cent in 2009. About one in five (19 per cent) uploaded photos to a website in 2007; one in four (25 per cent) in 2008 and one in three reported doing this in 2009 (34 per cent).

They were then asked whether they took videos on their phone. Nearly three-quarters said they did in each survey – 72 per cent in 2007, 73 per cent in 2008 and 71 per cent in 2009. These students were asked what they did with the video. Most said they just kept the video on the phone (60 per cent in 2007, 59 per cent in 2008, and 63 per cent in 2009). About a quarter sent their videos to someone from their phone in 2007 and 2008 (26 per cent in both years) but fewer reported doing this in 2009 (17 per cent). One in five (19 per cent) in 2007 and 2009 and one in four (24 per cent) in 2008 reported downloading their video to a computer. Small but increasing numbers put these videos online (two per cent in 2007, five per cent in 2008 and eight per cent in 2009).

Respondents were asked whether they had used their phones to access the internet in the past 12 months. 43 per cent said they had in 2007, but this figure rose to 52 per cent in 2008 and 53 per cent in 2009. These students were then asked about what

contents they had accessed online on their phones. In 2007, the most popular item was ring tones (53 per cent), followed by news (43 per cent) then music (38 per cent), sport (27 per cent), entertainment, TV or movies (24 per cent) and information (23 per cent).

In 2008, the most popular item was news (41 per cent), followed by information and ring tones (both 33 per cent), music (32 per cent), sport (27 per cent) and entertainment (19 per cent). In 2009, the most popular item was news (57 per cent), followed by information (51 per cent), sport and entertainment (both 28 per cent), music (23 per cent) and ringtones (13 per cent).

A minority reported using their phones to listen to the radio – about one in five in 2007 (22 per cent) and 2008 (21 per cent) and about a third in 2009 (32 per cent). Nearly a third said they used their phones to listen to downloaded music or podcasts in 2007 (31 per cent) and 2008 (32 per cent), and nearly two out of five in 2009 (38 per cent).

Finally, the students were asked whether they had received marketing or advertising messages on their phone in the past 12 months. In all surveys more than three quarters said they had (78 per cent in 2007, 2008 and 2009).

Discussion

The study provides a detailed picture of the mobile phone use and skills of first–year journalism students in Australia. The consecutive years of investigation also provide trend data not provided by previous studies.

This study shows that a typical first–year journalism student at Deakin University is a female who is 21 years old or under. She uses a mobile phone for voicecalls and text messages but not videocalls or to access emails. She will take photos on her phone and will probably send them from the phone and download them to a computer. She will also use the phone to take videos but will just keep this material on the phone. She is likely to use the phone to go online, mainly to access news and information. She is also used to getting advertising and marketing messages on her phone.

But there is also a significant and growing minority (as many as one in five within this cohort) who have extended experience of mobile phone use. They use the phone to make videocalls and for email, upload photos online, send video from the phone and download it onto a computer, and use the phone to listen to radio and downloaded music or podcasts.

The Deakin findings provide a detailed picture of the different uses that these new journalism students make of the digital multimedia functions on their mobile phones. The phone is still primarily used as a communication device, but interestingly, text/SMS has replaced voice calling as the universal means of communication for these students. 99.8 per cent of students in both surveys reported using their phones for text/SMS. Although voice calls from the phones were common, they were not universal. The greater use of the mobile for text messaging might suggest a desire among students on a tight budget to keep costs down. But it may also signal a subtle but important change in communication culture for these journalism students, favouring print/text-based communication over voice.

The Deakin study also demonstrates that some journalism students are also making video calls with their mobiles, a function that is akin to rudimentary television broadcasting or reporting. The trend of lower use of video calls compared to text and voice calls over the three surveys is interesting and could be explained by the greater costs associated with video calling or problems with connectivity.

As well as using the phone as a communication device, the study also demonstrated that very high numbers of these journalism students are using the phone as a tool to gather digital photo and video images. Around 90 per cent reported taking digital photos on their phones and more than 70 per cent report taking video. These figures demonstrate higher levels of use of these functions than those of the broader University of Melbourne cohort in 2006 which found that 70 per cent of students took either "digital photos or movies", but did not differentiate between the two. It is likely to reflect a trend towards greater use of photo and video functions of mobile phones and perhaps reflects the greater prevalence of phones with these functions and improvements in connectivity.

But the surveys revealed journalism students are not just gathering these images, they are using the phone to pass them on or publish them. The surveys show the students' familiarity with different ways of digitally transferring these images, either sending them from the phone to others, uploading them online or transferring them to a computer. In the first two years of the survey, the number reporting sending photos from their phones was around 60 per cent. This also seems to indicate higher usage of these functions than was reported in the University of Melbourne survey, where 53 per cent of students said they sent "pictures or movies to other people" from their mobile phones (again, the survey did not differentiate between these). However, the 2009 Deakin survey indicated a sharp drop in the numbers sending photos from their phones (49 per cent). The reasons for this aren't immediately clear, but again could be associated with costs or problems with connectivity.

The Deakin study also demonstrated that growing numbers of these journalism students are using their phones to go online. More than half of those surveyed went online with their mobiles in the 2008 and 2009 surveys. In comparison, only 32 per cent of University of Melbourne students reported they "access information/services on the web" on their phones in 2006. It is also significant that over the three years of the surveys, the main online destinations for these students on their mobiles were news sites and information sites. Many students (albeit still a minority) have already started to become familiar with mobile news and information online content by the time they arrive at university.

These findings may indicate that incoming journalism students have a greater aptitude and familiarity with these key new functions of gathering and publishing photos and videos than other cohorts of students. This would strengthen the argument that journalism educators should seek to adapt their teaching practice to further develop these inherent digital skills in new journalism students.

The Deakin study, however, has its limitations. There was no detailed questioning in the survey about the specification and capabilities of the students' phones and therefore it is not clear to what extent this impacted on the results. Students would be limited if they had older phones without photo or video functions, or had phones which were not 'third generation' or 3G capable. The degree to which this might have affected the

results is therefore unclear and there is no trend data on the type of phones students were using year-on-year. It is also acknowledged that the cohort surveyed in 2008 is significantly smaller than in 2007 and 2009.

However, the consistency of much of the data suggests this was not a significant problem. The survey also did not look at the link between mobile phone use and social networking sites such as Facebook and MySpace, increasingly popular with students.

One other factor that may impact on the study's findings is the differences in behaviour between female and male students in the Deakin surveys. In the Deakin studies, 67 per cent (2007), 74 per cent (2008) and 72 per cent (2009) of participants were female. This is in line with a typical cohort of university journalism students, but the number of females in the Deakin study is higher than in the University of Melbourne study which had 62 per cent female respondents. There is some evidence from close analysis of the Deakin surveys that female students use the photo and video functions of their mobile phones more than male students and this may have an impact on the overall data. When analysing the attributes of "digital natives", it may be necessary in future to differentiate the use of mobile phones between the sexes in study data.

Implications for educators

These findings clearly show that many journalism students on arrival at university already have experience of some basic, quasi-journalistic skills, incorporated into their use and experience of digital mobile phones. Students are 'newsgathering' by taking photos and video, and also 'publishing' by passing these photos and videos on, using mobile digital technology. They are using the phone as a multimedia communication tool, communicating by text and voice as well as by video in some cases. Although this is only within the relatively limited confines of mobile phone technology, many are demonstrating familiarity with the digital world that is close to instinctive. It may well be that this is further evidence of a generation of Prensky's "digital natives" starting to emerge and the mobile phone is the catalyst for the formation of this digitally aware, confident and savvy generation.

Journalism educators are already beginning to incorporate the use of mobile phones into their teaching around the world. There are two main areas where mobile phones will be particularly important. The first is in developing newsgathering and reporting skills for students. In the converged media environment, journalists will need to write, take photos, shoot video and report in both audio and video. Journalists will need to be able to edit and send this material and importantly be able to send or communicate it from the story location back to the newsroom or even publish it directly online (Quinn et al, 2008). The mobile phone is likely to be an increasingly important digital tool for journalists in the future. Journalists at Reuters, the BBC, Fairfax and News Limited are already using them for multimedia reporting (Luft, 2007, Quinn, 2008). Therefore, projects such as the Nokia Trends Lab at the Cardiff School of Journalism in the UK (Cardiff School of Journalism, 2008) are being developed in universities.

Most journalism schools already incorporate the teaching of television, radio and photography into their courses. The challenge for educators is to move towards

teaching these skills with the digital mobile phone as the main multimedia tool. There may be some advantages for universities in terms of equipment costs in doing this, as providing phones and phone software for students is likely to be cheaper than equipping classes with separate, individual digital video and photographic cameras, audio recorders and computers for editing.

However, there will also be potential issues in connectivity costs and reliability, although there is the potential for phones to connect to a university's wireless network, which may reduce costs. There will also be potential challenges in asking students to refocus their use of mobile phones from a social tool to a working tool. However, this is likely to be the reality of their working environment in the newsrooms of the future.

The second area where mobile phones are likely to influence the future for educators is in teaching the preparation of news content specifically for mobile phone consumers. The growth in mobile phone use globally means that news and information content prepared specifically to be consumed on a mobile phone is likely to be a major growth area for the journalism industry. As the industry searches for a new business model, it is likely that the delivery of news to mobile phones will be an increasingly large area of growth. The Deakin study shows that incoming journalism students are already significant consumers of news and information delivered to their mobiles online and it is likely that in their future careers they will be involved in producing this content and will be charged with the editorial responsibility of engaging and growing this audience for their work.

This leads to the need to develop curricula to incorporate specific writing skills for stories suitable for delivery to mobile phones. As discussed, this is a significant growth area for future news audiences and many of the students surveyed indicated they are already used to accessing news via their mobile phones. Within the limits of current mobile phone technology, this form of news writing is likely to concentrate on short, tight news breaks. The emerging popularity of Twitter with its 140 character message limit may be a model for this area of news writing. Writing 'the lead' and getting students to identify key news points from a story have always been a key part of journalism education and these are essential elements of writing news for mobile phone audiences. The 'inverted pyramid' style of news writing is ideally suited to mobile phone news delivery, where the consumer demands the essence of a story then may choose to scroll down or link to greater detail. The survey demonstrates that these Generation Y students use text/SMS universally. Journalism educators will be harnessing and developing these 'digital native' skills in students.

But beyond basic news alerts, as mobile news delivery develops with greater connectivity and more sophisticated mobile technology, journalism students will need to develop further skills. For mobile phone audiences, students will need to concentrate specifically on selection and framing of photos and photo galleries, production of short video reports and writing stories in blocks with hyperlinks to further information. This teaching will doubtless be included in the ongoing development of multimedia and online journalism curricula, which is a growing part of most journalism courses.

Conclusion

The Deakin study provides useful information for journalism educators seeking to incorporate the "digital native" skills of these new cohorts of students into their teaching. These data provide a baseline knowledge about incoming cohorts of journalism students which informs educators and which can be exploited in their teaching and shaping of curricula. The mobile phone offers an opportunity for educators to teach these traditional journalism skills in a new and more integrated, digitally converged way. The enthusiasm among students for exploring the digital possibilities of the mobile phone shown in this study would suggest that they would be keen to embrace the integration of mobile phones for teaching journalism skills.

Within a few years current journalism students will be the next generation of news reporters and editors. Their task will be to continue to find and satisfy a market for their journalism. Therefore, the integration of mobile phones into the teaching of journalism in universities would be likely to better prepare students to report and produce content for the growing mobile phone market in their working lives.

Further research on the emerging use of mobile phone and digital technologies in the teaching of journalism is needed to compare and benchmark the effectiveness of different teaching techniques and the various uses of the emerging technology.

References

Allerton, Haidee E. (2001). Generation why: They promise to be the biggest influence since the baby boomers. T&D 55 (11), (Nov 2001): 56-60.

Auman, Ann & Lillie, Jonathan. (2008). 'An evaluation of team-teaching models in a Media Convergence Curriculum'. Journalism & Mass Communication Educator, Winter 2008: 360.

Australian Teaching and Learning Council. (2009). 'New technologies, new pedagogies: using mobile technologies to develop new ways of teaching and learning', University of Wollongong. http://mlearning.uow.edu.au/ Accessed 8 Dec 2009.

Bailey, Jonathan. (2009). 'Mastering The Mobile Phone Frontier', European Journalism Centre, 22/6/09. http://www.ejc.net/magazine/article/mastering_the_mobile_phone_frontier/ Accessed 8 Dec 2009.

Birge, Elizabeth. (2004). 'Teaching Convergence – But what is it?: Educators struggle with ambiguous definitions from the profession'. Quill, May 2004: 10.

Butcher, Dan. (2009). 'Thomson Reuters reveals multi-pronged mobile strategy', Mobile Marketer, 17/7/09. http://www.mobilemarketer.com/cms/news/media/3702.html Accessed 8 Dec 2009.

Cameron, D. (2005). The Net Generation goes to university? Refereed paper presented to the Journalism Education Association Annual Conference, Gold Coast, Australia.

Cardiff School of Journalism, Media and Cultural Studies. (2008). 'School to use Nokia N95 to explore Mobile Journalism', 25/1/08. http://www.cardiff.ac.uk/jomec/newsandevents/news/08cardiffmobilejournalism.html Accessed 8 Dec 2009.

Emmett, Arielle. (2008). 'Handheld headlines', American Journalism review (August/September 2008). http://www.ajr.org/article_printable.asp?id=4582 Accessed 8 Dec 2009.

Goggin, G. (2006) Cell Phone Culture: Mobile Technology in Everyday Life, Routledge, New York and London.

Goggin, G. (2007) 'Cultural studies of mobile communication', in Handbook of Mobile Communication Studies, ed. J.E. Katz, MIT Press, Cambridge, MA.

Goggin, G. ed. (2008). Mobile Phone Cultures. Routledge, Abingdon, Oxon and New York.

Huck, Peter. (2005). " 'We had 50 images within an hour' ", The Guardian UK, 11 July 2005. http://www.guardian.co.uk/technology/2005/jul/11/mondaymediasection.attackonlondon Accessed 8 December 2009.

Kennedy, G. E., Judd, T. S., Churchward, A., Gray, K., & Krause, K. (2008). First year students' experiences with technology: Are they really digital natives? Australasian Journal of Educational Technology, 24(1), 108-122.

Luft, Oliver. (2007). 'Reuters planning for HD video mobile journalism', Journalism.co.uk, 27/11/07. http://www.journalism.co.uk/2/articles/530795.php Accessed 8 December 2009.

Noguchi, Yuki. (2005). 'Camera Phones Lend Immediacy to Images of Disaster', Washinton Post, 8 July 2005. http://www.washingtonpost.com/wp-dyn/content/article/2005/07/07/AR2005070701522.html Accessed 8 December 2009.

Prenksy, Marc. (2001a). Digital Natives, Digital Immigrants. On the Horizon, 9(5), 2-6.

Prenksy, M. (2001b). Digital Natives, Digital Immigrants, Part II. Do they really think differently? On the Horizon, 9(6), 1-6.

Prensky, M. (2007). How to teach with technology: Keeping both teachers and students comfortable in an era of exponential change. Emerging Technologies for Learning, 2, 40-46.

Quinn, S, Bethell, P. (2006). Connected but not online: a snapshot of Generation Y in Australia. Asia Pacific Public Relations Journal, 7, pp.51-61.

Quinn, S, vom Bush, W. (2008). Asia's media innovators, Konrad-Adenauer-Stiftung.

Quinn, S. (2008). "Why the media is on the move" in The Age's Livewire section, 24 July 2008, 23.

Steel, John, Carmichael, Bill, Holmes, David, kinse, Marie and Sanders, Karen. (2007). 'Experiential learning and journalism education. Lessons learned in the practice of teaching journalism'. Eductaion and Training, 49, 4: 325-334.

Wray, Richard. (2008). "Half the world's population 'will have mobile phone by end of year', The Guardian UK, 26 September 2008.
http://www.guardian.co.uk/technology/2008/sep/26/mobilephones.unitednations
Accessed 8 December 2009.

PAUL BETHELL is a Senior Lecturer in Journalism at Deakin University. He teaches contemporary journalism and multimedia reporting to undergraduate and postgraduate students. He has a law degree from Exeter University in the UK, and worked in the BBC TV newsroom in London for nearly 20 years, becoming Deputy Editor of '9.00 O'clock News' bulletin in 1993. He moved to Australia in 1999 and began his academic career at Deakin University in 2002.