Rethinking journalism education through visual literacy

Aditi Jhaveri* Faculty of Education, The University of Hong Kong

As student demand for university-based journalism studies surges around the world, this paper draws attention to developments in digital media and information technologies that are affecting journalistic practice and the nature of journalism education, thereby challenging traditional notions of literacy. With the explosion of web-based communication, computer generated printing and graphic design, the printed word has in many ways turned into image, and basic literacy has come to mean more than just the ability to read and write in a world dominated by bits and bytes. The paper argues that these new forms of visual text require a broader pedagogical approach for journalism in this electronic era as they question dominant ideas around language and expand on existing notions of literacy.

A visual language, such as that of web pages, besides relying on traditional writing, has its own elements which students of journalism need to comprehend in order to be able to express through it. In a society that wants instant news and information, the non-linear clickability of the digital age has resulted in the incorporation and integration of image, text, colour, sequence and motion, thereby producing a new format for organizing news. Thus, based on findings from in-depth interviews with educators and practitioners of journalism, this paper argues that although learning to read and write the printed word is still essential, it is no longer sufficient for journalism education in a world where TV, radio, videos, magazines and the World Wide Web have become powerful and pervasive sites for public education and literacy.

In effect, these shifts in the discourse of 'literacy', prompted by recent technological developments, have major implications for journalism education. The paper concludes that although the day of the printed word is far from over, journalism students cannot be considered fully literate unless they are taught how to use visual language and the language of screen to encode, decode, create and edit audio-visual messages for producing a news story. Therefore, the paper proposes the need for a journalism education that enables students to construct a story with both textual and visual elements, which can be intentionally read. These changes in the nature of news production, brought about by innovations in media technology, erode any stable conception of literacy in the context of journalism education.

Keywords: journalism education, new media technology, visual literacy

^{*} Corresponding author. Email: <u>hishijay@netvigator.com</u>

Introduction

Journalism is an interdisciplinary and rapidly changing field of study. While technological change and media convergence continue to redefine the scope of journalism education as well as the journalism profession itself, student demand for university-based journalism studies continues to surge around the world (Hume, 2007). It is widely believed that most entry-level professional journalists nowadays come out of university-based journalism programs, which make universities an important factor in media capacity building (Deuze, 2001), accounting for much of journalism education. 'Journalism education' refers to the training that students have to undergo in a journalism school or department, which is usually part of an established university, to equip them to become future journalists. According to a report by UNESCO (2007):

Journalism education should teach students how to identify news and recognize the story in a complex field of fact and opinions... conduct journalistic research...write for, illustrate, edit and produce material for various media formats... and for their particular audiences. It should give them the knowledge and training to reflect on journalism ethics... practices in journalism, and on the role of journalism in society... media law, and the political economy of media... It should teach them how to cover political and social issues... It should ensure that they develop...or have as a prerequisite...the linguistic ability necessary for journalistic work"(p.6).

However, no debate on journalism education can be complete without taking into account the changes taking place in this era of cybernetics and digital media due to the advent of new technology. The emergence of Web 2.0 technologies such as wikis, social networking sites, blogs, video sharing and podcasting has heralded a participatory culture (Gauntlett, 2007; Rheingold, 2008) where journalism students can not only contribute individually produced news content through their writing skills, but also rely on their ability to read, understand, interpret, and produce visual images for the news media. Brumback (1995) argues that the ratio of visual image to text is increasing as people spend more time with digital visual media than ever before to get news. The three R's are no longer deemed enough for an education that requires journalists to keep up with the new forms of communication that increasingly depend on their ability to read and write visual information, and to think in the visual domain.

The term 'visual culture', i.e. the aspects of culture that rely on visual images, is often used to describe the current trend that involves the increased role of images in the media, thereby leading to much academic work in recent years focusing on the notion of visual culture and the reading of visual images (Manghani, 2008; Martin, 2005; Mitchell, 2005). These scholarly articles and books indicate that the messages underlying media images may not only escape the viewers, but its subtler aspects may also remain unknown to the producers of visual media content. Since truth, facts, accuracy, impartiality, fairness and objectivity have been regarded as the pillars of ethical journalism (Harcup 2009; Itule & Anderson, 2000; Leiter, Harriss & Johnson, 2000) that can contribute to public trust and to a robust public sphere, it becomes important that these standards be maintained in this era of digital visual media, especially because visual messages can often go far beyond those of the accompanying news reports by amplifying, distorting or even changing the meaning put forward in the text (Kress & Leeuwen, 2006; Literacy in Media Research Project, 1994). Therefore, it becomes crucial for students of journalism to be not only familiarized with the textual dimension of language, but also to be made aware of the visual

component of news. Moreover, as online news continues to add video animation and other multimedia formats, journalists are frequently required to edit motion pictures on television and video the story. This makes it necessary for journalism students' need to understand the importance of every visual choice that is made, including every detail regarding subject, colour and composition that conveys news and informs the audience. Although Edwards (2010) argues that meaning is communicated through image more easily than print, Kress and Leeuwen (2006) emphasize that images can pose challenges because they may not be universally understood. Different cultures may assign different meanings to images, colours and symbols, which will consequently require journalism students to have a thorough grasp of the local and cultural context of news along with a good understanding of how visual messages ought to be read, used and conveyed in this age of global media. Fell (2006) points out that the iconic image of a reporter with "pencil and notepad" is no longer the sole symbol of journalistic literacy, and argues that the journalist in this digital age is increasingly being called upon to communicate as both wordsmith and image-maker.

Hence, the paper aims to determine the need for visual literacy in today's journalism curriculum from the perspective of educators and practitioners of journalism in Hong Kong. It also attempts to explore and examine (if needed) how visual literacy can be implemented in the journalism classroom. It is noteworthy that although the study is conducted in Hong Kong, as information technology continues to change the world, its results can be applicable and transferable to other contexts in this era because:

- According to Internet World Stats, Hong Kong's Internet penetration rate ranks first in Asia and ninth in the world (Hong Kong Trade Development Council, 2007).
- As of January 2009, the household broadband penetration rate in Hong Kong was 77.8% (Office of Telecommunications Authority, 2009).
- The presence and use of mass media and other forms of new media technologies is one of the strongest and most pervasive in Hong Kong (Chu, 2010).

Therefore, this paper bases its results on 8 in-depth interviews with journalism teachers and 4 journalists in Hong Kong along with a thorough examination of the existing literature on visual literacy and journalism education. The sample size of the interviewees was based on the general rule that interviewees will be conducted until no more new information or insight can be generated. In addition, since the paper focuses on journalism education, the very few number of journalism departments in Hong Kong meant that the point of theoretical saturation was reached quickly. However, based on this empirical study, the paper concludes on the note that all journalism students, in this day and age of media convergence, require visual literacy skills, and strongly argues for a reconceptualization of literacy in the context of journalism education.

Defining visual literacy

'Literacy' traditionally has meant the ability to read and write. Therefore, 'visual literacy' has been a contested term because of its automatic association with spoken or written language. However, increasingly, it has also be used to refer to the ability to "read images" (Thibault and Walbert, 2010). Bleed (2005) provides a more comprehensive definition because he sees visual literacy as "the ability to interpret, use, appreciate, and create images and video using both conventional and 21st century media in ways that advance thinking, decision-making, communication and learning" (p. 2). Thus, visual literacy in its basic form involves the following (see figure 1 below):

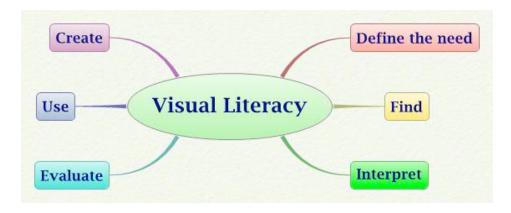


Figure 1: Acquiring Visual Literacy (Source: ACRL / IRIG Visual Literacy Standards)

The proliferation of images in the news media makes it important for student journalists to acquire basic visual literacy skills in terms of being able to read or interpret visual story formats while being able to know how to use visuals to create a news story through imagery. The latter can be done by defining the need in the news story as to when visual materials are required, and then by recognizing or finding the images that best convey the news. However, the term "visual literacy" was first used by John Debes in 1968, long before it was used in the context of journalism. Visual communication was understood to be a process of sending and receiving messages using images. In that sense, the broad field of visual literacy can be defined as the ability to communicate and understand through visual means. Girogis, Johnson, Bonomo, Colbert et al. (1999) define it as the "ability to construct meaning from visual images" (p. 146). Felten (2008) takes this definition a step further and refers to visual literacy as the ability to understand, produce, and use culturally significant images, objects, and visible actions. Thus, with regards to journalism education, visual literacy can be viewed as the ability to understand and explain images of the present and past as seen in the news, and produce images for the future that communicate the intended message of the news story to the audience effectively. A TV journalist explained:

Unlike some movies, where there may be a scope for multiple interpretations of the same story, the purpose of a reporter is to convey a specific and intended message to the audience. There is also a conscious attempt on the part of journalists to deliver the news clearly through visuals and to avoid any misunderstanding.

Therefore, in order for students to be visually literate, journalism education can attempt to instill the ability among students to recognize and understand ideas conveyed through visible actions or images, as well as to be able to clearly convey intended ideas or messages through imagery (Aanstoos, 2003). Here, it might be well worth noting that although visual literacy has always existed in the form of critical knowledge of relatively traditional and day-to-day elements such as facial expressions, body language, drawing, painting, sculpture, hand signs, street signs and international symbols, it increasingly refers to the more modern technological aspects of computer images, web pages, and the elements of their design including the layout and presentation of pictures, videos and words. In view of this notion of visual literacy, and the ability

required to understand and use it, visually literate journalism students can be expected to simultaneously play the role of both the critical consumer and the critical producer of visual content in the news.

The Need for Visual Literacy in Journalism Education

Forlin (2010) argues that most education systems still remain entrenched in long-established, traditional and conventional pedagogies. According to a journalism teacher, this is true for journalism education too, and therefore, "the reliance of educators primarily on the print medium is not surprising". However, looking from an instructional standpoint, visual and multimedia formats capture students' interests and are more easily understood, allowing the learner to successfully identify the problem-solving steps, and to focus on higher-level processes of critical thinking (Cooper 2003). Similarly, Stokes (2002) points out that many previous research reports published in the 1990s suggest that using visuals in teaching results in a greater degree of learning. As the ratio of visual image to text increases and people spend more time with digital visual media than ever before, basic literacy has come to mean more than the ability to read and write (Goldfarb, 2002; Goodman & Greene, 2003; Rheingold, 2008; Tyner, 1998). Consequently, the dominant position that text has enjoyed in journalism is slowly but gradually being rethought, as innovations in communication methods such as the World Wide Web challenge traditional forms of print communication (i.e. newspapers). Goodman & Greene (2003) note that with the explosion of the Internet and web-based communication, computer generated graphic design and printing has in many ways turned the printed word into image and the dominant form of language has become the image, adding that:

The image – still and moving, black and white and colour, chemically developed and electronically scanned, broadcast and downloaded, analog and digital – has been transforming and overshadowing the print word (p. 5).

For example, online news and web pages have their own elements, which students of journalism should fully comprehend, in order to be able to express through the medium. Consequently, learning journalism cannot be reduced to the representation of knowledge and skills primarily by written means. This designation of supreme status of the written word increasingly contrasts with the pragmatic roles that visual formats play in journalism students' day-to-day life. And although it is undeniable that the written and spoken word still remains the primary form of communication, students also need to understand the importance of graphics and film, which are just as powerful today, especially because they are deeply intertwined with young people's culture. Today's youth and children are regularly bombarded with images and most of their awareness comes through the language of moving images on the screen. Thus, the language of the screen or images needs to be taught exactly the way students are taught writing or music (Daly, 2004). Echoing this view, a lecturer teaching journalism and media subjects said:

A look around is sufficient to show that the visual or image-based means of communication such as TV, film, photography and the internet are the currently preferred mediums that young people like to use, yet our education still puts an emphasis on the written mode of communication.

From an early age, children watch quickly shifting images on the television screen. Consequently, as future students they come to expect these features of presentation to accompany information. As children grow older, they are increasingly able to comprehend the multiply layered visual and verbal information from television or computer screens. Everywhere outside of educational institutions, students come across many different forms of visual images. These youth who are known to belong to the 'net generation' due to their demographic characteristics and net usage, have also been called the "net-geners" (Leung, 2003). They are viewed as being highly comfortable with the new media environment and have been referred to by means of other terms such as "digital natives" (Prensky, 2001). Jenkins (2008) writes, "Young people learn more than half of what they know from visual information" but although they are regular users of blogs, YouTube and social networking sites, few know about how to think critically about visual data. Baker (2008) points out that although people are exposed to thousands of images but yet, unfortunately, not many know how to "read images". He (ibid) adds that many students might believe what they see, and therefore, it is paramount to teach critical thinking in relation to images. Similarly, Metros and Woosley (2006) argue that after thousands of hours of television watching and video game playing, cell usage and computer work, only a handful of journalism students are beginning to learn about visual story telling. Even though educators are often accused of resisting change, it is obvious that allowing the least challenging option, i.e. the constant use and overuse of the printed word and traditional text format, to define the dimensions of teaching and the potential for student learning severely limits the prospects for effective journalism education. Thus, by teaching students about how to critically evaluate the various visual formats, journalism educators can enable their students with the necessary tools to thrive in this day and age of the screen and its images. Therefore, it is crucial that universities and other tertiary institutions adapt their curricula and instructional practices accordingly because these new forms of communication in the electronic era, which are predominated by the visual, require a different teaching and learning approach.

Visual literacy and critical awareness in journalism education

In order to contribute to modern society, of which journalism is an important institution, students need to acquire critical visual literacy skills to keep up with the increasing global and technological developments (Roblyer and Edwards 2000). Baker (2008) argues that critical awareness of visuals can start with the still image. The visually literate viewer or student is expected to look at any kind of image carefully and critically, with an eye for the intentions of the image's creator. This idea is reinforced by a university journalism teacher as follows:

The images in a news story can convey information and ideas to critical-minded students, and this basic knowledge of visual literacy allows them to gather the information and ideas contained in an image, place them in context, and determine whether they are valid before they can proceed to the next level of producing their own visual content.

Similarly, Hocks (2003) emphasizes that education should involve the critique of the saturated visual and technological landscape that surrounds present day students. Moreover, Mitchell (2002) calls upon teachers to help students critically negotiate the visual world by "overcoming the veil of familiarity and self-evidence that surrounds the experience of seeing, and turn it into a problem for analysis..." (p. 166). Thus, several scholars have resoundingly made the case that critical

thinking and new media technology with its visual focus must be tightly pedagogically bound (Bleed, 2005; Duffelmeyer, 2002; LeCourt, 1998; Selfe, 1999; Takayoshi, 1996). This argument is especially relevant for journalism education due to its increasing dependence on new media technology.

However, despite calls that invoke critical thinking, concerns remain about incorporating the visual into pedagogy (Hills, 2004). Hills (ibid) notes that these range from the "dislike and disparagement of mass culture" to the misguided concern that writing will become subordinated to the visual in the classroom (pp. 108-110). However, rather than conceiving of visual literacy instruction in impoverishing either/or terms, Russell (2002) believes:

It can be seen as opening up pedagogical space for critical literacy with the Deweyan responsibility towards students of a curricular balance between the interests of the learner and the demands of the disciplines... (p. 332).

Based on the above citation, critical thinking in the context of visual literacy can be easily applied to the discipline of journalism because it provides the journalism student with the ability to see and create visual text not as a transparent window on reality, but as constructed from a viewpoint, with a communicative purpose and a calculated effect in mind. Cotter (2010) discusses how journalists select and construct news, and reveals how news is shaped by staff into the stories one reads or hears. A new journalist shared his experience of working in the newsroom:

Sometimes the actions of journalists and editors combined with the constraints of news production, may distort a story even if the original intention might be to write the story objectively, fairly and accurately.

The above statement supports White's (1950) concept of "gatekeeping" in news making who argues that the role of journalists and editors is that of gatekeepers because they select which news, what information, which source, which quotation, and in the context of this paper, which images and visuals should be used, and which ones need to be / can be omitted. Therefore, it can be seen that across all forms of media, the path of the news story is one of continuous selection and rejection, and the judgements and values of many individuals are brought into play before a story is printed or broadcast, thereby casting a shadow on its claims of objectivity and factual reporting. Therefore, the fact remains that the journalist can always select from a range of visual options which have different levels of significance, and these choices tell as much about the journalist's cultural and institutional location and ideological orientation as they do about the idealized audience.

Therefore, Schudson (1996) regards news as a "social institution and cultural form" (p. 3). News media spend a great deal of effort in maintaining a particular address to their audiences. This can be in the form of an idiom, a style of presentation in a language, or in this case a particular choice of images, which are directed towards a socially located sense of identification. In effect, news reporting is neither a 'natural' nor a transparent way of talking about social, cultural or scientific phenomena but has its own formats, conventions and prerogatives (Conboy, 2007). Essentially, it is through the way in which text and images are used that the institutional values and ideologies of journalism manifest themselves. The critical student, therefore, needs to be able to go beyond an individual image and apply that enhanced awareness, attained from being a critical viewer and

creator. S/he is not just a passive consumer of images and visual texts, but is one who is able to gain a critical consciousness about the world and its prominent /dominant discourses through a thorough understanding of how and why an image can be used or created by themselves or by someone else for the production of a news story. A teacher of newswriting elaborated on this view:

Critical visual literacy, when taught properly by visually literate teachers, can enable students to actively engage with the increasing visual modes of communication not only by means of understanding, analyzing and evaluating them, but also by the active creation and construction of visual forms of messages in the news media.

This critical awareness can help journalism students to make judgements regarding the accuracy, validity and worth of visual messages in the news.

Visual literacy and its implementation in the journalism classroom

Branch, Kim and Brill (2000) state that a visually literate person (or student) is able to: (a) discriminate, and make sense of visible objects as part of a visual acuity, (b) create static and dynamic visible objects effectively in a defined space, (c) comprehend and appreciate the visual testaments of others, and (d) conjure objects in the mind's eye. This knowledge could be inculcated by discussing the ways images have been used throughout history and by raising journalism students' awareness of intentionality regarding how an image, object or event has been put together to offer a particular kind of experience or to set up a certain kind of spectator.

The 'Literacy in Media Research Project' (1994) gives several instances of how visuals are used to create, illustrate, extend or modify meanings in the media. For example, when a certain object or a subject is placed at the top of an image, it usually represents what is considered ideal, and what comes at the bottom represents what is real. This opposition, top-bottom or ideal-real, is reflected in the hierarchical structure of society as well. Using a high angle (filming from above) rather than a low angle (filming from below) for a particular subject can lead to two very different readings of the visual text. Similarly, facing a subject head-on or approaching it, him or her from the side, staying close to the subject or staying at a distance, are all meaningful in visual representation of images in the news. Furthermore, the distance of the shot, the colours used, the placement of the images in the text, the focus, the speed of the images all communicate subtle messages to the reader / audience, which are not always easy to determine. Visual images – as still visuals or moving images - can consist of several elements such as people, their actions, the music and text accompanying them, maps, charts, graphs, diagrams, or cartoons. Some of these components are shown below (see figure 2):

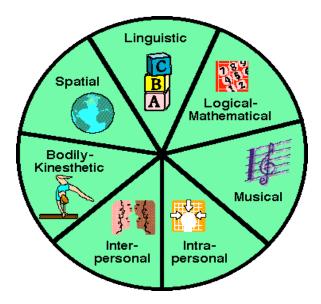


Figure 2: Components of Visual Literacy in Media Images (Source: Visual literacy, cyberculture and education, 2008)

However, when all these components are combined, the visuals are not as transparent as they are generally assumed to be, because these images have meanings and patterns of their own that can be detected, understood and learned (Kress & Leeuwen, 2006; Literacy in Media Research Project, 1994). Thus, students of journalism need to appreciate that visuals do not merely illustrate, but can also add to or modify the meanings put forward in the text in various ways. Students of journalism would, therefore, need to develop an awareness of the regularities and patterns of visual images to understand and create meaning in news texts. Consequently, by learning visual literacy skills, journalism students are not only instilled with a sense of aesthetic openness regarding the use of visuals, but they are also made critically cognizant of the capacity of images to manipulate news and information.

In order to develop journalism students' visual literacy, various types of images can be shown to students for discussion by means of thought-provoking questioning on part of the teachers. Thus, the integration of critical visual literacy instruction into the classroom journalism curriculum can begin by asking a few key questions to initiate the thinking process. Students can be taught to evaluate visual messages through questions such as (Riesland, 2005):

- What am I looking at?
- What does the image mean to me?
- What is the relationship between the image and the displayed text message?
- How is this message effective?

But simply understanding the meaning behind visual messages is hardly adequate because during the visual design process, students need to be taught to questions themselves as well. Some of the questions they can ask themselves during the production process are (Riesland, 2005):

- How can I visually show this message?
- How can this message be made effective visually?
- What are the audio-visual elements that can be used?

In this era of new technology, Metros and Woosley (2006) emphasize that simply having technical skills, or the skills to copy data, navigate and converge does not cross over into the ability to tell a news story. Visual story telling in journalism requires much more than technical competency. Consequently, Metros and Woosley (2006) state:

Higher education must prepare visually literate students to look critically at images and graphic representations and ask the following questions: "Does this image tell the truth?" "How representative is this image?" "What is the source of this image?" "Are we responding to emotional issues or content?" (p. 2).

Moreover, journalism students can be taught to appreciate and note the fact that visual messages exist everywhere, such as in dance, film, fashion, hairstyles, exhibitions, public monuments, interior design, lighting, computer games, advertising and photography. By beginning to take notice of the day-to-day visual elements, which are an integral part of their lives, students can not only find it appealing to study the messages conveyed through these images, they can also develop a visually critical bent of mind. A visually aware critical student would then be able to (Bamford, 2003):

- Analyze the style and composition of the image
- Analyze the techniques used to produce the image
- Evaluate the aesthetic merit of the work;
- Evaluate the merit of the work in terms of its purpose and the audience;
- Understand the innovation, (or lack of) the visual images affective impact and the feelings it generates (or doesn't)

Furthermore, a senior journalism educator's suggestions are particularly useful in this regard:

More frequent opportunities can be provided to students of journalism in which educators experienced in visual formats, can encourage students to work together to produce a web page, to write an online news story with its different audio-visual components, or to produce a news video clip or documentary. This would also be in line with the constructivist notion of learning where students learn by doing things, coming up with ideas, solving problems and producing creative visual messages themselves

Thus, students can be involved in their own knowledge construction through discussion and creation of visual images rather than having to depend on an external source constantly. Besides, these activities are likely to be of interest to students and can stimulate students' minds, thereby resulting in higher motivation for learning and retention of what is learned. Once students internalize these questions, not only will they recognize subtle, negative, biased, harmful and propaganda messages conveyed through the various forms of new media and technology, but they will also be prepared to communicate with a level of visual sophistication that will carry them through the multimedia-dependent future of higher education in journalism and the work environment of the modern news room. This is particularly important today because convergence sometimes places the responsibility of producing the entire story on a single journalist (Tanner & Duhe, 2005), unassisted by camera men and an editing team. It is vital that teachers prepare journalists for this new and independent journalistic work through visual literacy. Preparation

then means both training and setting up an infrastructure in educational institutions to help students develop their journalistic ability. However, a journalism teacher pointed out:

Although students are now required to carry out a broad range of production tasks, which require the use of images, 'visual literacy' is not taught explicitly, but often in passing... such as while focusing on topics such as representation or ethics. Perhaps video blogs such as YouTube will enhance students' visual literacy. But a single shot video of a one-off event such as that of the "Bus Uncle" incident in Hong Kong should not be confused with literacy that is required to construct a proper news story.

Thus, most teachers agreed that students don't yet have the full skills to express themselves visually because they require not only technical skills, but also much imagination and creativity, combined with good teaching to produce visual news content. Moreover, a journalism educator added, "Faculty who choose to use visuals in teaching face many challenges. They have difficulty locating resources and the support services required to produce high-quality visuals." Furthermore, the interviews revealed that some teachers have difficulty finding the time to learn new technology and the consultants who can teach them how to find their own solutions. A journalism educator while sharing his concerns and experiences said:

When some students request to complete an assignment graphically, faculty members who are used to assessing essays, papers and other written work, often lack the experience and confidence to critically evaluate work that wanders outside the print norm. But, sometimes faculty members avoid straying from the regular written norm in their style of teaching and hesitate in focusing on visual material because they fear the risk of being called frivolous by their peers and seniors.

This mindset may discourage many journalism educators from trying new pedagogical approaches based on a broader definition of literacy.

Conclusion

The time has come for journalism teachers to take visual literacy more seriously rather than simply as a trivial aspect of popular culture. With the shift towards more visual mediums, there has been a growth in the visual content in news media. This can no longer be ignored in journalism education, which has so far emphasized the importance of basic writing skills. Thus, although the study primarily relies on one method, i.e. interviews, and would have benefitted from class observations as well, it is clear that an understanding of visual communication and design is an indispensable facet of understanding the basics of news making nowadays. This means that journalism students should be able to read and write visual language along with traditional text because in this day and age of convergence most news stories are likely to combine text with images to produce news. If students and their teachers are to meet the demands of this information era, they must be able to successfully navigate and communicate through continuously evolving visual mediums. The visual is clearly a break from the tradition of the textual, which was the icon of older educational values in the journalism classroom. As technological developments continue to erode any stable conception of literacy, these shifts taking place in the discourse of literacy have profound implications for journalism education.

References

- Aanstoos, J. (2003). *Visual Literacy: An Overview*. In aipr, p. 189, 32nd Applied Imagery Pattern Recognition Workshop (AIPR'03), Washington DC.
- ACRL/IRIG Visual Literacy Standards. Retrieved from: http://acrlvislitstandards.wordpress.com/category/vl-definition/
- Baker, F.W. (2008). Visual literacy. Retrieved from: http://www.frankwbaker.com/vis lit.htm.
- Bamford, A. (2003). *The Visual Literacy White Paper*. Retrieved from: http://www.adobe.com/uk/education/pdf/adobe_visual_literacy_paper.pdf#search=%22%22visual%20literacy%22%22.
- Benson, P.J. (1997). Problems of picturing text: A study of visual / verbal problem solving. *Technical Communication Quarterly*, 6 (2), 141-160.
- Bleed, R. (2005). Visual literacy in higher education. *Educause Learning Initiative*. Retrieved from: http://www.educause.edu/LibraryDetailPage/666?-ID=ELI4001
- Branch, R. M., Kim, D., & Brill, J. M. (2000). A vision for a taxonomy of visual literacy. In R. E. Griffen, W. J. Gibbs & V. S. Williams (Eds.), *Natural vistas: Visual literacy and the world around us,* (pp. 71-74). Loretto, PA: International Visual Literacy Association.
- Conboy, M. (2007). The language of the news. New York: Routeledge.
- Cotter, C. (2010). News talk: Investigating the language of journalism. Cambridge University Press.
- Chu, D. (2010). In search of prosumption: Youth and the new media in Hong Kong. *First Monday*, 15 (2). Retrieved from:
 - http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2772/2451
- Daly, J. (2004). *Life on the screen: Visual literacy in education*. Retrieved from: http://www.edutopia.org/life-screen.
- Debes, J. (1968). Some foundations of visual literacy. Audio Visual Instruction, 13, 961-964.
- Deuze, M. (2001). Educating 'new' journalists: Challenges to the curriculum. *Journalism and Mass Communication Educator*, 56(1), 4-17.
- Dikovitskaya, M. (2006). Visual culture: The study of the visual after the cultural turn. Cambridge: The MIT Press.
- Duffelmeyer, B. B. (2002). Critical work in first-year composition: Computers, pedagogy, and research. *Pedagogy: Critical Approaches to Teaching Literature, Language, Composition, and Culture*, 2(3), 357-374.
- Edwards, P.A. (June, 2010). Reconceptualizing literacy. Reading Today, 27(6), 22.
- Fell, B. (2006). *Visual literacy, journalism and the digital age*. Retrieved from: http://www.sfu.ca/media-lab/archive/2007/326-428/Resources/news%20practices-writing:%20graphics/paper-BruceFell.doc.
- Felton, P. (2008). Visual literacy. The Magazine of Higher Education Learning, 40 (6), 60-64.
- Forlin, C. (2010). Developing and implementing quality inclusive education in Hong Kong: implications for teacher education. *Journal of Research in Special Educational Needs*, 10, 177–184.
- Gauntlett, D. (2007). *Media studies 2.0*. Retrieved from http://www.theory.org.uk/mediastudies2.htm
- Giorgis, C., Johnson, N.J., Bonomo, A., Colbert, C., & et al. (1999). Visual literacy. *Reading Teacher*, 53(2), 146-153.
- Goldfarb, B. (2002). *Visual pedagogy: Media cultures in and beyond the classroom.* Durham, NC: Duke University Press.

- Goodman, S., & Greene, M. (2003). *Teaching youth media: A critical guide to literacy, videoproduction and social change.* NY: Teachers College Press.
- Harcup, T. (2009). Journalism: Principles and practice, 2nd edition. London: Sage.
- Hills, C. A. (2004). Reading the visual in college writing classes. In C. Handa (Ed.), *Visual rhetoric in a digital world: A critical sourcebook*, (pp. 107-130). Boston: Bedford/St. Martin's.
- Hocks, M. E. (2003). Understanding visual rhetoric in digital writing environments. *College Composition and Communication*, *54*(4), 629-656.
- Hong Kong Trade Development Council (2007). *Internet*. Retrieved from: http://www.hktdc.com. Horn, R.E. (1999). *Visual Language: Global Communication for the Twenty first Century* 1st edition. London: Macrovu.
- Hume, E. (2007). *University journalism education A global challenge: A report to the Center for International Media Assistance*. Retrieved from: http://www.ellenhume.com/articles/education.pdf
- Itule, D.A., & Douglas, A.A. (2000). *News writing and reporting for today's media*, 5th ed. London: McGraw Hill.
- Jenkins, R. (2008) Visual literacy. *Teaching and Learning*, 30 July/August, 4-8. Retrieved from: http://www.teachingexpertise.com/articles/visual-literacy-3961
- Kress, G., & Leeuwen, V.T. (2006). *Reading images: The grammar of visual design*, 2nd edition. NY: Routeledge.
- LeCourt, D. (1998). Critical pedagogy in the composition classroom: Politicizing the writing space. *Computers and Composition*, 15(3), 275-295.
- Leiter, K., Harriss, J., & Johnson, S. (2000). *The complete reporter: The fundamentals of news gathering, writing and editing.* London: Allyn & Bacon.
- Leung, L. (2003). Impacts of Net-generation attributes, seductive properties of the Internet, and gratifications obtained on Internet use. *Telematics and Informatics*, 20, 107–129.
- Manghani, S. (2008). Image critique. London: Intellect Books.
- Martin, J. (2005). The state of visual cultural studies. *Journal of Visual Culture*, 4 (2), August. London: Sage.
- Media in Literacy Project (1994). *Stage 2: Media Literacy*. Issues in Education for the Socially and Economically Disadvantaged (6). Metropolitan East Region: Disadvantaged Schools Program Metropolitan East Region, NSW Department of School Education.
- Metros, S., & Woosley, K. (2006). Visual literacy: an institutional imperative. *EDUCAUSE Review*, 41 (3), 80-81. Retrieved from: http://www.educause.edu/apps/er/erm06/erm0638.asp?bhcp=1
- Mitchell, W. J. T. (2002). Showing seeing: A critique of visual culture. *Journal of Visual Culture*, *I*(2), 165-181.
- Office of the Telecommunications Authority (2009). *Key telecommunications statistics*. Retrieved from http://www.ofta.gov.hk/en/datastat/key_stat.html.
- Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon, 9(5), 1–6.
- Rheingold, H. (2008). *Participative pedagogy for a literacy of literacies*. Retrieved from http://freesouls.cc/essays/03-howard-rheingold-participative-pedagogy-for-a-literacy-of-literacies.html.
- Riesland, E. (2005). *Visual literacy and the classroom*. New Horizons for Learning. Retrieved from: http://www.newhorizons.org/strategies/literacy/riesland.htm.
- Roblyer, M., & J. Edwards (2000). *Integrating educational technology into teaching*. Upper Saddle River, N.J.: Prentice Hall.

- Russell, D. (2002). Writing in the academic disciplines: A curricular history. Carbondale: Southern Illinois UP.
- Ryberg, T., & Dirckinck-Holmfeld, L. (2008). Power users and patchworking An analytical approach to critical studies of young people's learning with digital media. *Educational Media International*, 45(3), 143–156.
- Selfe, C. L. (1999). Technology and literacy: A story about the perils of not paying attention. *College Composition and Communication*, 50(3), 411-436.
- Schudson, M. (1996). The power of news. Harvard University Press.
- Stokes, S. (2002). Visual Literacy in Teaching and Learning: A Literature Perspective. *Electronic Journal for the Integration of Technology in Education*, 1(1), Spring. Idaho: Idaho State University.
- Sturken, M., & Cartwright, L. (2007). *Practices of looking: An introduction to visual culture*, 2nd edition. Oxford: Oxford University Press.
- Takayoshi, P. (1996). Writing the culture of computers: Student technology critics in cultural studies classes. *Teaching English in the TwoYear College, 23*,198-204.
- Tanner, A., & Duhe, S. (2005). Trends in mass media education in the age of media convergence: preparing students for careers in a converging news environment. *Studies in Media and Information Literacy Education*, 5(3). Toronto: Toronto University Press.
- Thibault, M., & Walbert, D. (2010). *Reading images: An introduction to visual literacy*. Retrieved from: http://www.learnnc.org/lp/pages/675.
- Tyner, K. (1998). *Literacy in a digital world: Teaching and learning in the age of information*. New Jersey: Lawrence Erlbaum & Associates.
- UNESCO (2007). Model curricula for journalism education. *UNESCO Series on Journalism Education*, CI-2007/WS/7REV. UNESCO.
- Visual literacy, cyberculture and education (2008). Retrieved from: http://visuallit.wordpress.com/2008/06/01/visual-literacy-for-all/
- White, D.M. (1950). 'The Gatekeeper': A case study in the selection of news. *Journalism Quarterly*. Fall, 27, 90-383.
- Willeman, P. (2002). Reflections on digital imagery: Of mice and men. In M. Rieser & A. Zapp (Eds.), *New screen media: Cinema/art/narrative*, (pp. 14-29). London: British Film Institute.
- Copyright © 2010 *Aditi Jhaveri*. The author assigns to CETL, HKU the right to publish this document in full in the conference proceedings. Any other usage is prohibited without the express permission of the authors.