Visual Literacy: A necessary skill for planning graduates?

JOHANNA ROSIER AND PAM DYER

Visions of the future inform planning decisions. Yet it is often unclear where our visions stem from, or whether we, as planners, have the visual literacy skills to effectively communicate multiple stakeholder visions. Our decisions could be based on past experience and exposure to past external and internal images (Neuman 1996). However, these previously seen images could influence us as planners, in different ways depending on our visual literacy skills. Visual literacy, frequently perceived to be the domain of the Arts and Humanities, is concerned here with the “… kind of literacy that might serve for the entire university community, across all disciplines” (Elkins, 2008, p.3).

The concept of visual literacy as used in the case study is explored through a survey of advanced planning students and interviews with planners working in the profession. This research is underpinned by theory from photojournalism, environmental health and planning disciplines.

Introduction

The literacy capacity of Planners and the various aspects of design production informing their visual literacy are difficult to assess. In this project, visual literacy consists of utilitarian competency elements and an ability to evaluate, understand, interpret and use images in promoting ‘social influences that are ultimately global in their consequences’ (Crouch, 2008, p.204). In planning terms visualisation is used to open up planning processes for participation, increased understanding and improved quality of decision making (Al-Kodmany, 1999; Appleton and Lovett, 2003).

This project identifies visualisation skills of value to planning graduates so that they may focus more effectively on the merit of images as effective methods to inform consultation and planning decisions. We argue that images should not be used for illustrative purposes alone.

However, these tend to assume but not specify visual literacy in its broader social sense (Vanolo 2008). According to Sheppard (2005, p.646), important ‘attributes of visualisation’ include realism, environmental relevance, immediacy, affective content, and implications; these, he espouses, are better accessed via immersion, dynamic imagery, and interactivity. Rose (2001, p.4) proposes that we should use visual methodology to ‘discipline … passion, not to deaden it’.

The visualisation methods in Table One are derived from planning literature. The descriptive use of 2D GIS is the dominant technique in terms of the number of publications debating best practice in its application. Neuman (1996) contends that planners, carry the images of location in their mind, thus research is needed to identify how these images are used and abused in the planning process. Studios and workshops have been the common method of teaching and applying the various visualisation methods presented in Figure 1 (Wetmore and Heuman, 1988, p.143; Gurren et al., 2008, p.18). Gurren et al. comment that workshops or studios are an important bridge between conceptual understanding and practical application of knowledge. However, as planning programs face resource pressures, intensive educational methods such as studios and workshops become difficult to manage, especially given restrictions on casual teaching support (Gurren et al., 2008, p.42).

<table>
<thead>
<tr>
<th>Types of visualisation methods</th>
<th>Descriptions/definition and application</th>
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<tbody>
<tr>
<td>2D GIS</td>
<td>Methods used include GIS – likewise geography, cultural and architectural history, neighbourhood strengths and weaknesses, opportunities and threats using maps and orthographic maps.</td>
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<tr>
<td>3D Virtual reality/Urban simulation - 3D computer with photography to give the user the sensation of being immersed in a real world. Planner can communicate the experiential chasm of place. Complains about the level of detail in design elements (e.g. trees/shrubs). Most effective way to enable a client to see and use a project before construction.</td>
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<tr>
<td>Community stories</td>
<td>The use of stories in land-use planning allows the landscape change process to be situated within the social meanings relevant to the community. This has meaning to both process and content of plans.</td>
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<tr>
<td>Art Sketch</td>
<td>Person involved in drawing “urban scene” including people, streets, parks, retail areas and detailed elements such as trees, street furniture. Human activities are depicted – giving human scale to the drawings.</td>
</tr>
<tr>
<td>Electronic Sketching</td>
<td>Same as above. Overcomes some of the limitations of pen and ink sketches. Able to quickly include elements such as trees shrubs and street furniture. Discussions with community and thinking through ideas on a linear process. New technologies being developed such as SMART board and improvement to graphic forums will revolutionize class meetings and workshops.</td>
</tr>
<tr>
<td>Web surveys</td>
<td>Web surveys useful to collect and disseminate demographic, socioeconomic, public preference and other data of public interest – and to ensure that data accessible for interactive participation.</td>
</tr>
<tr>
<td>Photographs</td>
<td>Good for non-expert participants, identify liked and non-liked features, high degree of realism aids comprehension. Promotes democratic design and planning – aids in developing a common vision and agreement about the present visual characteristics of the community and desired futures.</td>
</tr>
</tbody>
</table>
Table 1: Types of Visualisation Methods used in Planning Sources: Al Kodmany (1999)(2001a)(2001b); Rose (2001); Appleton and Lovett (2003); Appleton and Lovett (2005).

Callow (2008, p.617), in discussing the use of visualisation methods in education, claims that ‘a multi-literate individual will need to have a variety of skills to make meaning of all types of texts’, a point particularly relevant to Planners as they make sense of multiple texts including but not limited to written text, photographs, graphs, and 2 & 3D models — paper-based, physical or electronic — to inform and communicate planning decisions at different levels for and with various stakeholders and audiences. Callow proposes ‘an approach that can be situated coherently alongside the other literacies and the broader sets of professional and social practices being taught at the core of the University curriculum’.

There is little in the literature that addresses the issue of appropriate application of the visualisation tools directly. However, Sheppard (2001, p.183) and others (e.g. Nicholson-Cole 2005; Al-Kodmany 1999, 2001b) alert us to the need to match the visualisation method chosen to the purpose, intended planning outcomes, and the tools needed to communicate meaningfully with planners and community stakeholders. Furthermore it is important that planners recognise the need for a code of ethics to guide appropriate production, use and interpretation of images. This implies then, a need for training or education in visual literacy in its broader multidisciplinary social sense, so that planning practitioners are able to perform in accordance with a code of practice. In addition, Sheppard (2001, p.183) identifies an ‘... urgent need for researchers to monitor and evaluate the use and influence of landscape visualizations in practice’; a concept strongly supported by Nicholson-Cole, (2005, p.256) who was aware of potential bias resulting from different interpretations, and in selecting designing and constructing images based on prior assumptions about the meaning of written text and images.

In this pilot study we reviewed the coverage of visualisation methods in the University of the Sunshine Coast planning and planning related courses to determine which of the methods in Table One are taught and applied in student assessment. Next, advanced level planning students enrolled in the third and fourth year Bachelor of Regional and Urban Planning at the University, identified via the University’s student database, were invited to participate in a survey to assess their opinion regarding the usefulness of visualisation methods used in the Regional Council discussion document (SCRC, 2009). Of the 32 students invited, 24 (75%) participated.

Two professional planners, a strategic planner and a development assessment (IDAS) planner, were asked to participate in two ways; firstly they were asked to rank the same visualisation methods, and secondly, they responded to an in depth semi-structured face-to-face interview to explore how visualisation methods taught matched the needs of the profession.

Advanced level University students and professional planners were assumed to have the capacity to decide whether or not to participate, based on the level of decisions previously made in order to advance to that stage within the University or the profession. The two planners interviewed were asked to identify their planning education.

Only adults were involved in this project. On agreeing to participate in the pilot, participants were provided with a description of the project and advice that they could withdraw from the pilot at any time without penalty. Participants were not offered incentives to participate in the pilot.

Because of a potential conflict of interest between the researchers and their students involved as research participants it was important to cover ethics issues that could arise. Ethics approval was also sought and granted for the wider project because it was important to demonstrate the correct processes to students (USC Ethics approval No. 09/12634).

It was made clear to both the students and practising planners that there were no right or wrong answers to the questions or contributions to the discussions and that their participation would neither positively nor negatively influence their position as a student in the planning program or their career. Courses offered at the University are moderated by Environmental and Planning staff other than the researchers, so the moderation process would identify and manage any inconsistencies regarding favourable or unfavourable treatment of participating or non-participating students.

Data Analysis and Results
Table Two details the education received by USC student respondents in the use of visualisation methods through participation in a GIS course, two urban planning and design courses and an introductory course. They have
also used images extensively in core planning, and planning related courses. At USC, students are required to do a generic GIS course but then apply the technique in 3rd and 4th year studio courses. Carlson (2010) believes that planning students gain more benefit from generic GIS courses if they are able to brainstorm how this skill may be applicable in their future planning careers.

In the in-depth interviews with the two planning practitioners, both planners acknowledged the importance of visualisation methods in professional planning practice. The strategic planner sought clarification of the term “visualisation” and differentiated between IT architectural techniques (e.g. 3D electronic “fly thru” models) and the ability to read and interpret plans and maps whereas the development assessment planner placed more emphasis on the importance of 3D Architectural images of buildings and development. The strategic planner felt that planning students need to be assessed in terms of their ability to choose the correct visualisation methods and use them effectively in communicating ideas to the community and a range of other experts.

Both planners believed that the community did not really understand the way planners currently use models depicting the future in the presentations of the “Our Community Our future” discussion document (SCRC, 2009) and consultation process.

However, they disagreed about whether the community should be advised of assumptions underpinning future modelling. Both agreed that the community was not currently advised of assumptions. While the strategic planner agreed that the community should “probably” be informed, the development assessment planner said that the community was interested in the bigger picture and thus did not need to be informed of assumptions underpinning consultation processes. The strategic planner felt very strongly that the community and the planning stakeholders should be aware of who was championing any proposals, and that electronic 3D modelling would become essential communication tool for the next generation of planners.

The development assessment planner believed that the public was always suspicious when Council planners tried to explain plans for the future. The strategic planner felt that community stakeholders focused on the personal and local level of detail of any future models rather than engaging with conceptual thinking. The strategic planner’s experience of the “Our Community Our future” consultations was that the community could not deal with high level conceptual information unless it was presented using appropriate visualisation methods. The strategic planner believed planners need to also think about the level of planning (region to local) when deciding on which methods to use in communicating planning ideas.

Table Two. Application of visualisation methods in USC planning and planning related courses.

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<tr>
<th>Program Year</th>
<th>Visualisation methods used in core planning courses</th>
<th>Visualisation methods used in planning related courses (excluding the minor)</th>
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<tbody>
<tr>
<td>1st</td>
<td>Development of a portfolio, <strong>Good Urban Place assessment</strong> using Lynch’s criteria, (individual assessment)</td>
<td>Reading of sketches/maps prepared by Indigenous Australians.</td>
</tr>
<tr>
<td>2nd</td>
<td>Drawing base maps and constraints and opportunity mapping. Spatial design using 2D plans and 3D illustrative sketches. Interpretation of “PD Online” – online spatial database and overlay system associated with Queensland planning schemes and planning scheme maps. Individual and group assessment</td>
<td>Heritage assessment using sketches, historical maps and photography/video images. Spatial (2D) analysis of demographic and other statistical data. GIS data concepts and GIS maps, understanding GIS attributes and spatial query and understanding “geo-visualisation”, map layout and colours/symbols, Application of GIS and remote sensing techniques. Individual assessment.</td>
</tr>
<tr>
<td>3rd</td>
<td>3D design of a room, Site analysis utilising GIS techniques, “psycho-physical” analysis (spatial of place). Land-use, transport and Infrastructure Plans (2D) plus sketches. Group Assessment</td>
<td>Use of photographic images to illustrate environmental issues</td>
</tr>
<tr>
<td>4th</td>
<td>Urban Analysis for a whole town, Analysis of opportunities and constraints, preparation of a structure plan (SPA) and preparation of a code (mainly 2D, with photographic illustrations). Integration of individual stories Some use GIS in research project.</td>
<td></td>
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</table>

Discussion and Conclusions
The two planners agreed with the theorists that there is a need for improved awareness in the profession about the use of images in planning documents, especially now that communities are looking to participate in online debates about long term planning strategies (Al-Kodmany, 2001a;
Appleton and Lovett, 2005; Carson, 2008). In the past, the use of images was limited by printing budgets, but with online strategies, this is no longer a significant constraint. Both practitioners believe that with specific training planners will use visualisation methods appropriately, and become more aware of the ethics of using and misusing visualisation methods.

The pilot study indicates that students generally use visualisation methods illustratively even though third and fourth year students use tools like ‘sketch it’. With this exposure illustrations are more sophisticated but remain essentially illustrative.

If planning students are to integrate their GIS skills and knowledge more effectively in developing their visual literacy, substantial changes are needed to the learning outcomes and assessment tasks in USC core planning courses. It would be more difficult to influence the content of planning related courses because these are also offered outside the planning program and so have multiple purposes and stakeholders. However, the planning staff can influence changes in these courses over time.

In this pilot study, practitioners and students do not see the potential of community stories and web surveys to support consultation as envisaged by Al-Kodmany (2001b). Again this would require planning student learning outcomes to be reshaped and for more applied computer learning within the program. This is a challenge under the current university funding regime.

The differences between the preferences of the development planner and the strategic planner have legitimacy in that the development assessment planner currently, under IDAS, responds to individual project applications consisting of plans, elevations and sections of proposed structures; whereas the strategic planner is trying to create and communicate concepts of future development for politicians, communities and other stakeholders. The implications of this result for planning education are that both sets of skills are essential.

In response to the findings of the pilot study, additional data for the broader research study will be collected via recordings, note taking, and researcher observation, at interviews with planners. Each participant will be shown a range of photos, graphs and other illustrative planning materials to stimulate discussion. This additional data and analysis arose out of a discussion with the student group in the pilot. The student's were confused by Callow's (2008) questions which raises concerns about their levels of visual literacy or of the relevance of Callow's questions which were not put to the practitioners. More testing is required by the researchers before Callow's questions can be used to assess the visual literacy of University students beyond the Art discipline.

Table Three. Callow's (2008) questions to assess Planners' visual literacy capacity.

<table>
<thead>
<tr>
<th>1. Affective Dimensions:</th>
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<tbody>
<tr>
<td>why do you like this image – explain</td>
</tr>
<tr>
<td>why do you not like this image – explain</td>
</tr>
<tr>
<td>would others respond in this way – explain *</td>
</tr>
<tr>
<td>*This question is asked in order to establish levels of social awareness and the participants' ability to anticipate likely ways of thinking across various cohorts or groups they, planners, need to consider and be mindful of in the planning process.</td>
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<th>2. Composition Dimension:</th>
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<tr>
<td>what impact does the colour, shape, positioning, and textures have on you – explain</td>
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<tr>
<td>is there an emotional connotation associated with these image attributes – explain</td>
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</table>

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<thead>
<tr>
<th>3. Critical Dimension:</th>
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<tbody>
<tr>
<td>are there any implied social, ethnic, cultural, symbolic or power relation connotations</td>
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<tr>
<td>how and why do you suppose the creator of the image chose the compositional attributes of the image – explain</td>
</tr>
<tr>
<td>does the arrangement of the image content appear to be intentional, accidental or coincidental – explain *</td>
</tr>
<tr>
<td>*This question is not intended to elicit a correct response pertaining to the &quot;photographers/designers&quot; intentions; rather it is used to assess the level to which multiple possibilities exist and to probe these possibilities.</td>
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</table>

Overall the pilot study has demonstrated that researchers need to be cognisant of choosing methods because of the diversity of terminology. Even the concept of visual literacy is not well understood by planners even though the use of visualisation methods is critical in good communication of planning concepts. The researchers now need to redesign the questionnaires, introduce Callow's (2008) questions reworked to be relevant in assessing the visual literacy capacity of planners so that they may more competently focus on the merit of images as effective governance and communication tools to inform planning decisions.

References


Author
Pam Dyer is Professor and Dean of the Faculty of Arts and Social Science, University of the Sunshine Coast. Pam received her PhD from the University of Queensland. She researches in the fields of geography, natural heritage, avian ecology and tourism and has published in national and international refereed journals.

Associate Professor Johanna Rosier is the Leader of the Regional and Urban Planning Program at the University of the Sunshine Coast. Johanna’s current research contributes to a three year ARC funded initiative to critically examine institutional arrangements for Australian coastal governance and planning to ensure sustainable, integrated coastal zone management.

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Mommy, Don't
[in memory of Karissa Boudreau]

What she said he'd said was, “it’s me Or her!” Karissa (i.e. ‘her’) Had, once more, let her tongue run free, And the resultant flying fur

Had chafed a nerve-end up his nose. She’d lost her husband while she napped, And, at the thought of two such blows, Something inside of her had snapped.

What he said he’d said was, “we ought To talk.” The running feud, it seems, Remorseless as a juggernaut, Had made raccoon scat of his dreams;

Still, he adored them, mom and child, By tenfold more than anything, Though Penny ‘d only sourly smiled When he suggested counseling….

Of course, the neighbours had their say In Bridgewater and close-by thorps The day Karissa ‘ran away’; Then, when they’d found her frozen corpse

And charged her mother with the crime, Sententious news-hens pecked the keys In press-rooms miles from Maritime So bloggers, stuffed with journalese, Could chuck it up again in gobs (They could use Grammar-Check but won’t). Karissa, though, between her sobs, Could only sputter, “Mommy, don’t!”

Peter Austin,
York, Ontario

[Twelve Year Old Nova Scotian Karissa Boudreau was Strangled by her mother, with a Length of Twine, in January 2008. “Mommy, don’t!” were her Last Words.]
Sunshine Coast Regional Council (SCRC), 2009. Our Place Our Future: Have Your Say. Sunshine Coast Regional Council Discussion Document.

Author
Pam Dyer is Professor and Dean of the Faculty of Arts and Social Science, University of the Sunshine Coast. Pam received her PhD from the University of Queensland. She researches in the fields of geography, natural heritage, avian ecology and tourism and has published in national and international refereed journals.

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