

Drawing to Learn

Clinical Education, Health & Social Care

Pauline Ridley and Angela Rogers



Visual Learning in Higher Education

Drawing to Learn

Each of the booklets in this series is addressed to a broad cluster of disciplines and offers a brief introduction to the ways in which drawing and other visual methods may be used to support undergraduate and postgraduate learning and research. We hope the ideas and examples will encourage lecturers and supervisors to explore the possibilities in their own teaching. More resources, including downloadable materials and detailed guidance on the activities and approaches mentioned here, are available online at

www.brighton.ac.uk/visuallearning/drawing

About the authors

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Visual Learning in Higher Education “Drawing to Learn” is one of a number of publications and online resources developed through the LearnHigher Centre of Excellence in Teaching & Learning* to support the development of visual/spatial/tactile knowledge and skills in undergraduate and postgraduate education. These may include: observation and recording of visual data (for instance during field visits or in laboratories or clinical settings); evaluation and analysis of visual evidence; effective use and understanding of visual methods of communication and research. Further information and resources can be found at

www.brighton.ac.uk/visuallearning

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For further information and resources for university staff and students on many other areas of learning development see **www.learnhigher.ac.uk**

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Series foreword: How can drawing support university study?

Drawing and other visual practices have an important role to play in every discipline - not just those with which these activities are usually associated.

Drawing helps to sharpen **observation** skills, a vital element in many subjects, and enables rapid and accurate recording of key data in almost any situation.

Equally, **conceptual drawing** and diagramming requires students to make explicit and tangible their understanding of abstract or complex ideas and processes. By doing so, it provides a basis for these to be discussed, explored and challenged – a powerful way to develop critical thinking and reinforce memory and understanding. Visual approaches can also be valuable in cross-cultural student groups where linguistic uncertainty could cause misunderstandings.

The ability of drawings and other visual images to provide a trigger for discussion and dialogue means they can be used to develop **communication** skills, to encourage students to reflect on their own experience, and to explore professional and personal goals and plan for development.

The potential of images to encode large amounts of information economically also serves an integrating function. Images are fundamentally analogic, triggering a web of associations with familiar domains.



Judy Martin

Analogic thinking and visualisation are recognised elements of higher order thinking and contribute to effective **problem solving skills** (Kaufmann, 1990; Marshall, 1995). For all these reasons, image-based techniques are also valuable **research** tools.

Given these potential benefits, it may seem surprising that, in most subjects, drawing and other visual skills are somewhat underused and rarely taught directly at undergraduate or postgraduate level. A variety of social and historical factors lie behind this omission: a general undervaluing of sensory and technical knowledge which in Europe may be traced back to the rise of the academies between the sixteenth and eighteenth centuries; philosophical traditions which value the life of the mind over that of the body; and longstanding differences of status and income between 'manual' and 'intellectual' forms of work.

More immediately, school experiences often convey the impression that drawing, copying and colouring, while valuable as learning tools in the early years, should be left behind once reading and writing are established. At the same time, widespread (mis)conceptions about self-expression and creativity have sometimes deterred teachers from helping children to acquire basic drawing skills, an omission which then leads to lack of confidence and fluency. Consequently, many people arrive at university assuming i) that drawing is childish and/or irrelevant to academic work, ii) that it is something only artists do, and iii) that they themselves are 'no good' at it.

We need to challenge these beliefs. We expect all students to be literate and numerate even though few of them will become professional writers or mathematicians. Equally, drawing and other visual-spatial skills can be learned by anyone, at any age, to a sufficient level for most practical and conceptual purposes.

The barriers described above may make lecturers hesitate to introduce drawing into their own teaching. We hope this booklet and associated online resources will help overcome any such reluctance. The approaches described here and on the website have been developed and used with academics in many disciplines at different universities. They do not require specialist skills or materials and most can be incorporated into standard teaching sessions. We hope you will try them out and contribute your own ideas and examples via

www.brighton.ac.uk/visuallearning/drawing

Drawing within Clinical Education, Health and Social Care courses

Observation

[Leonardo's] ability to investigate a vast range of subjects by meticulous observation, rational thought, and ...deductive reasoning... produced anatomical and physiological revelations, elements of which remain relevant now... His rendering of the mitral valve as a quadri-leaflet structure antedates our better understanding of the valve leaflets. (Wells & Crowe 2004).

Drawing can help to develop the observation skills needed in all health and social care professions, because it forces us to pay closer attention to what we see.

In the past it was the only practical means of recording the appearance of individuals and objects. Within medical and related disciplines, it was used to learn and communicate anatomical knowledge, to present visible symptoms of disease and to provide instruction for medical techniques. Many of these functions have now been taken over by photography, video and digital imaging, but what has been lost in this move is the careful observation combined with critical scrutiny that hands-on approaches involve.

Students often 'consume' images uncritically, and although taking their own photographs is an effective way to heighten visual awareness, this is rarely practical or permissible in clinical settings. Drawing (directly or from photographic images) pushes us to look for longer and to ask 'What is this I am looking at? Why does it look like this? How else might it look? How does it relate and compare to what else I know?'

It may be impractical to reintroduce life classes into the curriculum but there are other drawing methods that help develop observational abilities. You can encourage students to carry around a small notebook to make rapid sketches of facial expressions and body postures, directly if possible but also from memory. Even if they never rival Leonardo, the more regularly they use a sketchbook, the more acute their perception will become.



However, students more used to drawing in an art context may aim for a pleasing image rather than an accurate and relevant record, while those lacking confidence in their drawing may rely on schematic representations of what they think is there. It can be helpful to show them varied examples of observational sketches, and discuss these in terms of what has been noticed rather than aesthetic qualities.

Give students plenty of opportunities to develop their confidence. Re-drawing after an initial sketch can push them to see in more depth and elaborate their original observations. Copying and colouring are also effective ways to learn to look and to reinforce memory. Copying removes anxiety about rendering a likeness and allows students to focus on structure and detail, and many people attest to the study value of the detailed specialist colouring books published on topics such as anatomy and microbiology.

For study purposes, drawing skill is mainly a matter of practice and reasonable eye-hand coordination, and is much less important than the ability to look really carefully. There are several widely used exercises, which could be used in introductory sessions and practised independently.

One such is '**blind contour drawing**', where the surface on which you are drawing is masked in some way, to focus attention on the subject and the process of looking rather than the drawing as an image. The simplest way to achieve this is to push a pencil through a spare sheet of A4 paper and then hold the pencil below this, so that the paper conceals both hand and the drawing surface below. Now focus on the outline of the object being observed and while following it round with your eye, trace the same contour with your pencil without looking down or lifting the pencil from the paper.

Another common approach is to use a **viewfinder** (made by cutting out a rectangular 'window' in a piece of card) to frame what you are looking at and help concentrate on a small section at a time. In the same way, a **squared grid** overlaid on a source drawing or photograph will enable you to copy this more accurately and notice the fine details in each section. Other looking & drawing exercises can offer opportunities to sharpen perception of variations in tone, colour or texture.

These basic exercises are effective whether or not the object of attention is relevant to the academic discipline. Indeed there is some evidence that observing unfamiliar material is beneficial, since ignorance of what is significant requires attention to every detail. Some studies have shown significant improvements in medical students' visual diagnostic skills after time spent studying art historical images (Bardes, Jolev, 2002)

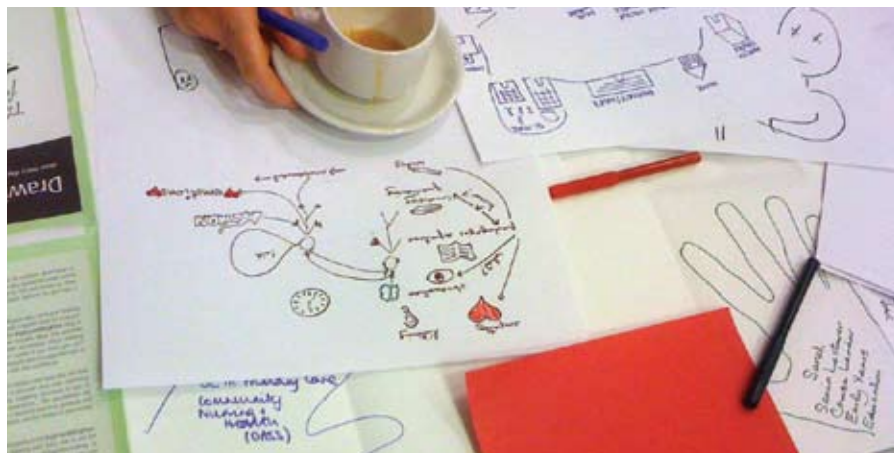
Conceptual drawing, mapping and visualisation

Sketching out an idea on paper is an instinctive way to test your idea, identify its flaws or discover new possibilities that your imagination alone cannot see. (Armand Leroi, Professor of Evolutionary Developmental Biology, Imperial College London, The Big Draw, 2008)

In any subject, the habit of giving tangible form to abstract ideas is beneficial. As several studies (eg Brumby, 1984) have shown, students may reproduce theoretical knowledge accurately in written examinations, while retaining fundamental misconceptions that inform their day to day thinking. Drawing and other image-based work are excellent ways to reveal such tacit theories, assumptions and values.

You can get students to create **quick freehand drawings** or diagrams in class to represent **key concepts** or processes. This helps them to clarify their own understanding of ideas. The group can then compare and discuss the different versions, enabling them to explore ambiguities as well as correct any misunderstandings. Similar methods can also be used to explore ethical issues, such as the dignity and respect agenda within health and social services.

Students in the health and social care sectors will be familiar with anatomical or scientific diagrams and other graphic representations of statistics or organisational systems. However we should not assume that they always know how to interpret or use such images appropriately. Making their own versions helps to develop a more sophisticated understanding of the relationship between symbolic representations and what is being described.



Mind maps, especially when they include schematic images to represent individual elements, can help individuals or groups to build up a 'bigger picture' of complex systems or subjects. Recording group discussion on whiteboards or flip charts makes the thinking process visible immediately. Unlike text which is read in a linear sequence, mind maps and diagrams allow a great deal of information to be apprehended simultaneously. Mind-maps are also useful as aide -memoires and tools for revision.

Timelines and storyboards Drawing gives us a way to investigate and play with the sequence of events. Standard formats such as annotated timelines and storyboards (short comic strips) can help students to visualise what may have happened in the past or to project into the future. For instance, they might imagine the life story that has created particular circumstances or begin to understand the long term impact of chronic conditions. Such activities can help them develop empathy and recognise how cause and effect plays out in individual lives. A4 paper and post-its are sufficient for this but if the teaching space allows, the whole group can create a giant timeline or story board on the floor or wall, using large sheets of lining paper. The physicality of such activities often reinforces the impact on learning.



Embodied knowledge

For this group of professional disciplines, a major benefit of drawing is that it offers access to sensory as well as abstract means of expression and investigation. By helping students link their own embodied experience of the world with what they are learning, it can integrate many different elements of the health and social care curriculum. Drawing helps us to access memory; the marks on paper leave a physical trace of the body's actions, a record of the experience of feeling and a means to project emotions (Schneckloth, 2008).

A preliminary exercise in **drawing from touch** enables a focused exploration of sensory knowledge. Place objects inside boxes or bags and ask students to feel these with one hand and draw with the other. They have to discern the object through touch and then visually express what they feel on paper, moving from one modality to another. This encourages them to re-experience familiar objects and brings out their tacit knowledge of the three-dimensional qualities. This understanding can, for example, help students become more sensitive when touching patients and carrying out complicated medical procedures.



Angela Rogers

Equally, students can be asked to imagine and draw something that might be going on inside their own or others' bodies; this can heighten their sense of the corporeal. Midwifery students in one workshop drew images of the pregnant mother's body and the foetus inside, using the highly sensuous medium of chalk to link the symbolic (diagrammatic) and tactile (experiential) dimensions of their knowledge.



Teresa Whitfield

Collage

For most kinds of conceptual mapping and visualisation, basic tools such as pens, pencils and paper are enough. However there are times when collage (constructing a picture by sticking images or other materials to a surface) can be even more effective.

Collage seems to work best when we move from the intuitive to the conceptual so it is an appropriate medium for exploring identity, ethics and professional dilemmas. You may want to provide images that relate directly to the subject matter of the session but this is not always necessary, as students will bring their own associations to quite random collections of material. Either way, it is helpful to collect images in advance from a variety of magazines or newspapers to give plenty of choice.

Ask each student to make an initial selection of images that relate to their beliefs or experiences or understanding of the given topic, or even just attract their attention for reasons that they cannot rationalise. They then combine and arrange these - according to whatever system of connections makes most sense to them - and stick them down on a large sheet of paper. If space is very limited, collages on postcards can also work well. In small groups, students then discuss their collages and may add signs and text in the light of this.

A good way to extend collage activity is to make A4 or A3 colour copies to look back on at a later date, or to cut up and integrate into new collages. This iterative approach helps students review their thinking over time and reflect on their own learning.



Communication, reflection and dialogue

More important than thought is what leads us to thought, impressions that force us to look, encounters which force us to interpret, expressions that force us to think (Deleuze, 1964).

For most of the activities described here, the greatest benefits come when the drawings produced are used as a trigger for subsequent discussion. Drawing can be used even more directly to develop the clinical and professional communication skills that are vital in this subject area.

In the therapeutic field drawing is regularly used to encourage clients to express feelings of trauma, pain, mental distress and loss. The absence of a shared specialist vocabulary may hinder communication between professional and patient, but making something visual can provide a bridge between them. Drawing is an intuitive strategy open to all, and the sensations and emotions that it triggers may be more effective catalysts for deep and critical thinking than rational procedures.

This is equally true in educational contexts. Using colour, expressive mark making and symbolic imagery, students can **explore experiences** through analogy and empathy. Practising such activities for themselves develops insight as well as confidence about using such methods in their future work. One of the participants in a workshop for health professionals wrote afterwards:

it showed [us] that drawing depicts concepts in a very emotionally raw way, and that people are accessing their thoughts and feelings via quite a different route than when verbalizing... iterative drawing exercises allowed us to push through one-dimensional stereotypes of particular illnesses or conditions into a more multi-faceted understanding of the relationship between illness, internal and external perceptions of illness, treatment, aftercare and identity...



With any teaching activity that may elicit deep seated feelings, it is important to be clear in advance about why students are doing this and to agree guidelines on boundaries and confidentiality. However, because there is no fixed language of visual expression, drawing offers a valuable element of ambiguity in interpretation. It allows feelings about loss, bereavement, frustration or anger to be individually expressed but not necessarily to be apparent to other participants. Students can choose how much or little to elucidate.

Collaborative drawings are also a good way for a group to share hopes and fears at the beginning of a course or reflections on their learning. To explore beliefs about professional identities, ask students to discuss and draw – in and around a life-size outline figure – the attributes of the professional they aspire to become. This can help prompt discussion of whether these expectations are realistic (a variation might be to represent the ‘ideal’ client or patient.) As a follow-up activity, they could produce maps or other representations of the learning journey between their current state and where they want to arrive.

Paired drawing, in which each participant in turn adds to the drawing, building on each other’s contributions, is a great way for students to explore the dynamics of one-to-one communication. The lessons learned are relevant to their professional interactions with colleagues and to any kind of one-to-one work with patients or clients. In these ‘drawing encounters’ (Rogers, 2007, 2010), *“...the process of improvising the rules of engagement, and negotiating the shared territory, is made visible, and the paper becomes an arena for mutual reflection and collaborative inquiry”*.



Research

It has become increasingly clear since the latter half of the 20th century that knowledge or understanding is not always reducible to language. (Eisner, 2008).

In just the same ways that drawing can support learning and teaching, it is also a valuable addition to every stage of research, particularly in the context of health and social care.

Qualitative research in most disciplines still relies mainly on written or spoken language, with questionnaires, interviews and focus groups dominating most students' assumptions about research methods. However, visual methods are highly effective in helping respondents to access areas and levels of experience that may not easily surface in verbal form. They could and should take their place in the researcher's toolkit.

As with any other research process involving human subjects, normal rules of ethical procedure and informed consent apply. We must also stress that the aim here is not to produce images to be interpreted by the researcher but to use them to prompt and support meaningful conversations:

...the use of image-making as a focus for discussion ...provides researchers with a simple procedure that accesses the inner world of the informant... the process of expressing themselves graphically frequently enabled [participants] to talk about their experiences more lucidly... (Spouse 2000)

At later stages of the research process, any of the visual methods discussed in previous sections can help the researcher to explore emergent theoretical insights. The page from Darwin's notebooks, in which the words "I think" are followed by his first-known sketch of an evolutionary 'Tree of Life', is a particularly famous example, but others can be found in many fields (Phipps, 2006).

Most researchers will have times when their thinking is 'stuck' or they feel they have reached a dead end. Using visual analogy to explore this situation can reveal unexplored avenues or identify insights previously unrecognised. Here the associative potential of collage is especially helpful (Butler-Kisma & Poldma, 2009)

Visual representations may also be used to communicate research findings. These need not be confined to charts and other graphical forms of quantitative data or conventional research posters. More informal or expressive modes also have the potential to help generate new forms of knowledge and understanding.

Final thoughts

We hope that the suggestions and examples in this brief outline will encourage you to consider incorporating drawing and other visual methods into your lectures, workshops and other teaching sessions. Our experience, and that of the colleagues with whom we have worked over the past few years, is that most students really appreciate the excitement and energy that comes with using active visual approaches in an academic context.

We would emphasise again that most of these do not need elaborate preparation, specialist materials or unlimited space and time. However, like any other teaching strategy, they benefit from thoughtful planning and selection of the most appropriate activities for each purpose, and sufficient time for discussion afterwards.

It is also worth spending a few minutes explaining the rationale for what you are asking students to do, so that they understand that what may seem like 'play' has a serious purpose. At the same time, aim for a relaxed atmosphere so that anxiety about perceived lack of drawing skill does not inhibit anyone's ability to participate fully.

Wherever possible, keep a record of drawing activities and the images produced, so that students can revisit these later. Digital technologies have made it very easy to take quick photographs and upload them to online sites or virtual learning environments (VLEs). Giving students the chance to do this for themselves aids their ownership of the process. Reviewing the images helps to re-activate memories of the session and reinforce students' learning, while printouts, with comments and other additions, can usefully be included in reflective journals or portfolios.

The website associated with these booklets contains more detailed descriptions and tips for running particular activities, along with downloadable materials, case studies and links to further reading and resources. We hope that you will find these useful and that you will contribute to future debates about the role of drawing in higher education, by sending us your feedback and suggestions via the website www.brighton.ac.uk/visualearning/drawing

Selected bibliography

Bardes, C. (2002) 'Learning to look: developing clinical observational skills at an art museum'. *Medical Education* 35 (12), 1157-1161.

Bennett, J. (2005) *Affect, Trauma and Contemporary Art*. CA. Stanford University Press.

Brumby, M (1984) 'Misconceptions about the concept of natural selection by medical biology students', *Science Education* 68 (4), 493-503.

Butler-Kisber, L. and Poldma, T. (2009) 'The power of visual approaches in qualitative inquiry: The use of collage making and concept mapping in experiential research'. *International Conference DRS Special Interest Group on Experiential Knowledge*. Online. http://web.me.com/niedderer/EKSIG/conference_proceedings_files/EKSIG09_proceedings_finals.pdf pp 36-50.

Deleuze, G. (2008) *Proust and Signs*. London. Continuum. Impacts.

Eisner, E. (2008) 'Art and Knowledge'. In Knowles, J. and Cole, A. (2008) *Handbook of the Arts in Qualitative Research*. London. SAGE. 3-12.

Kaufmann, G. (1985), 'A Theory of Symbolic Representation in Problem Solving,' *Journal of Mental Imagery*, 9(2), 51-70.

Phipps, B (2006) *Lines of Enquiry: thinking through drawing*. Cambridge: Kettles Yard.

Rogers, A. (2010) 'Drawing the spaces between us: Using drawing encounters to explore social interaction'. In Martin, P. (ed) (2010) *Making Space for Creativity*. Brighton. University of Brighton. 33-39. Online. <http://brighton.ac.uk/creativity/>

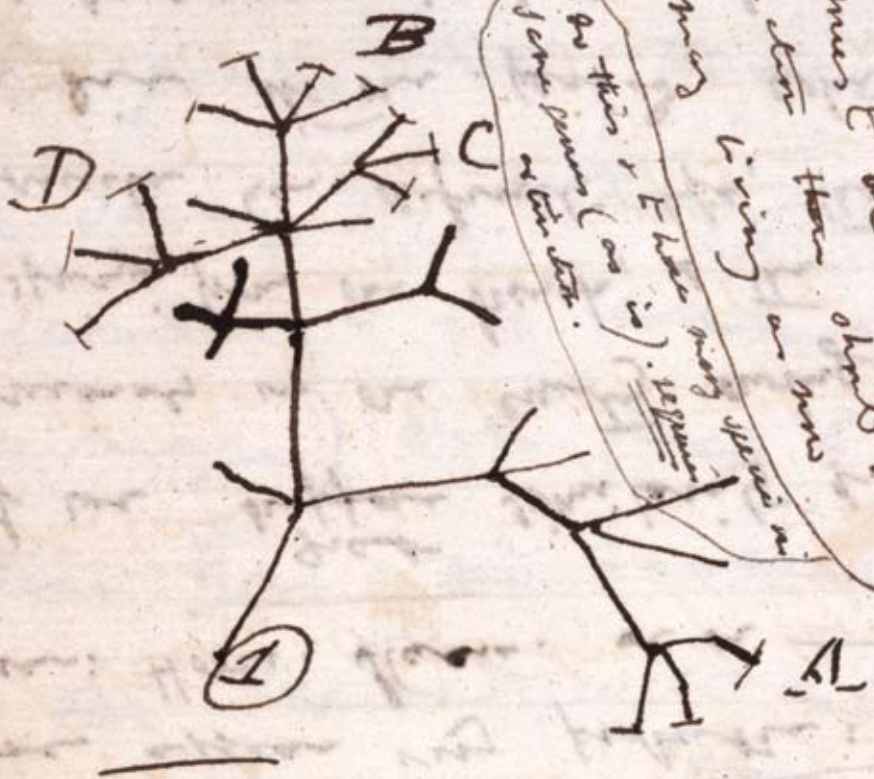
Schneckoeth, S. (2008) Marking Time, Figuring Space: Gesture and the Embodied Movement, *Journal of Visual Culture* 7, 277-292.

Spouse, J. (2000) 'Talking pictures: Investigating personal knowledge through illuminative art-work' *Nursing Times Research*, 5 (4), 253-261.

Wells, F & Crowe, T. (2004) 'Leonardo da Vinci as a paradigm for modern clinical research', *Journal of Thoracic & Cardiovascular Surgery*;127:929-44.

Williams, B. (2000) 'Collage work: A medium for guided reflection in clinical supervision', *Nurse Education Today*, 20 (4), 273-280.

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