

Using Digital Cameras in Art & Craft classes

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Photo – Bruce Chivers

You don't have to be a computer expert to use a digital camera in your teaching.
This document covers a range of uses for digital cameras from simple to advanced. If you want to give it a try, there should be something here for you regardless of your IT skills.

A. Why use a digital camera?

For you:

It's a quick way to record progress. Keeping photographic records makes it easier to recognize progress in your learners, and to record that progress as it happens. A quick photo takes less time than a written description and provides a clear record. This is part of the 'RARPA agenda' – Recognizing and Recording Progress and Achievement. It is also becoming increasingly necessary in certificated courses where the award body needs evidence.

It offers a new teaching resource. For example you could take step-by-step pictures for a particular painting or craft technique and make them into a handout so learners remember them better, or to give out if they miss a session. Or you could take a series of pictures showing alternative compositions for a painting, or designs for an item of pottery, then explain the pros and cons of each. Or you could borrow a laptop and data projector to project enlarged pictures of (selected) students work and get them to talk through the techniques they used and what went well and what didn't.

For your learners:

It can help them learn better. Looking back at pictures of their work as it progressed generally helps raise learners' awareness of their own progress and improves their critical analysis. This in turn improves their continuing learning. It also gives you, and them, an opportunity to celebrate their achievements.

It can show them where they're going. Looking at pictures of work from previous (or similar) courses helps learners to understand where they're going, and can be a useful source of inspiration.

Publicity for their work. Some learners may wish to spend time producing good quality 'promotional' pictures of their work which they can then send (on CD or paper) or email to galleries or prospective clients. Using digital images in this way is less expensive than traditional photos – and allows wider circulation. There are also a number of low cost web sites where learners can upload their pictures to allow public viewing.

B. Why Digital?

A digital photo can be viewed immediately after taking it, on the screen of the camera itself. So if you're not happy you can just delete it and take another. Or you can take several pictures then choose the best ones later and scrub any you don't want.

Digital photos are effectively free. You can print them out if you want, but very often this isn't necessary - often they're put on a CD and passed around that way. You can save a large number of photos on a single CD - eg photographic records for a whole class for a whole year.

Once you have a digital image you can re-use it easily. If you have a favourite image you could use it on handouts, email it to colleagues or learners, upload it to a website, project it via a data projector or even print it out on photographic paper.

You can manipulate your photos using digital imaging software, if you're keen to learn more. You can then experiment with different colouring or shapes to see what a painting or other work would have looked like. This can be a useful way of further developing your own awareness, or that of your learners.

C. Do you need a computer and the skills to use it?

This depends on your particular situation and how much use you want to make of the digital camera's potential. Three examples are given below.

If you don't want to use a computer at all

Perhaps the simplest way to use a digital camera in your lessons is to take the photos - deleting any unwanted ones as you go - then hand the camera to someone with a computer and ask them to 'burn the images onto a CD' for you. Many photo shops can also do this for a small fee.

Once they are on a CD, you can delete them all from the camera's memory so the camera's memory is completely empty, ready for the next time you want to use it. Then, with the images on CD, you can get chosen ones printed by your local high-street photo shop. Or you could get someone to make multiple copies of the CD for you, and give these out to your learners - who can print out their own work if they wish. Interestingly, around two-thirds of households in Devon and Cornwall had a home computer in Sept 2003, according to an LSC survey. The proportion is now higher than that, so many of your learners will have one.

You will probably find that one of your learners - or someone else you know - has their own digital camera and related expertise, and will be happy to help with copying ('burning') to CD. Blank CD's are very cheap and learners who want a CD are usually willing to pay the cost price.

Taking this approach is a bit limited but means that you don't need to get involved with computers at all if you don't want to.

If you have a basic computer and basic skills to go with it

In order to transfer images to your computer, it will need to have a 'USB port' – a small opening about 15mm wide and 5mm high. Just about every computer under 3 years old has at least one of these. Alternatively, some computers have a 'card reader' which you can use to transfer images from the camera's memory card (you have to take the card out of the camera first).

Once you have taken the photos, you will need to plug the camera into the USB port using the lead supplied – or put the memory card into the card reader. You should then be able to copy the photos from the camera to the computer somehow – newer computers automatically sense the plugged in camera/card and ask what to do with it. Other computers may need you to insert the installation CD – which comes with the camera – so the necessary software can be installed before you first transfer images. Once they're on the computer, you can then look through the photos and delete any you don't want. You will probably also want to delete some or all of the photos from the camera's memory too, so it is ready for next time.

It is helpful if you know how to set up and name folders on your computer, and to move the image files to your new folders. This way you can keep all your photos in an appropriate place – which makes it much easier to find and use them when you need to. In Windows you can use 'My Computer' or 'Windows Explorer' to do this.

Once you have the photos on the computer, it helps if you can do some, or all, of the following:

- Insert images into a word processing document (eg use the Insert menu) - so you can create handouts or progress reports for learners
- Change the size of images in a word processing document (eg click in the image, then drag a corner inwards or outwards) – so you can fit several on one printed page
- Write ('burn') images onto a CD – so you can give out copies to learners
Note that floppy disks aren't suitable as they hold too little to be much use here
- Copy images onto a 'USB flash drive' – so you can carry them around easily
- Carry out very basic photo editing such as cropping, resizing and saving in lower resolution (eg using Microsoft Photo Editor) – so you can squeeze more images into a given space on the hard drive or flash drive.

If you have an advanced computer and advanced skills to go with it

All of the 'basic computer and skills' section applies but you might also wish to:

- Use a more sophisticated image processing program to alter the colour balance, remove unnecessary detail, compress or otherwise improve the image file
- Use 'photo album' software that lets you more easily organize photos on your computer
- Use presentation software (eg PowerPoint) for resources for use with a data projector
- Set up a 'slide show' of images to introduce or reinforce learning – for data projector
- Use the 'video' setting of the camera to record brief sequences showing particular skills
- Give learners copies of your handouts on CD or floppy disk. As well as the word-processed original, include an 'rtf' version too, as these can be read on just about any computer (Microsoft Word files may not be readable by some home computers).
- Create handouts as web pages then give these to learners or upload to a web site.

D. Illustrative Examples

These are fictional but based on actual work with digital cameras across the ACL sector.

Kathy teaches watercolour painting, has a basic home computer and knows how to use the word processing software on it to make simple text-based handouts.

Kathy took a number of photos of local seascapes, sometimes taking three or four photos from the same place but moving the camera slightly in between. She used some of these photos in a handout about composition, inserting them into a word processed document and printing it out in black & white – then photocopying it. Kathy borrowed a laptop and data projector for one of her lessons and spent about an hour going over composition and a number of other related topics – projecting the photos she had taken onto a wall and using the handout as support.

At the end of term, Kathy got her learners to bring in their work and spent a few minutes with each learner, discussing progress that term and photographing their work. Afterwards, Kathy transferred the images to named folders on her computer then copied these folders to a 'USB flash drive'. One of her friends took the flash drive and 'burnt' each folder onto a separate CD which Kathy then gave to the learners so they each had a copy of their own work. Kathy also asked for a single CD with a copy of all the folders, for her own records.

Jim teaches pottery, has a basic, modern computer home computer but hasn't used it much before. He had someone help him set up a folder for each of his learners on the computer's hard drive.

Pottery has a habit of exploding in the kiln just when you don't want it to, so Jim takes photos of his learners' work just before it first goes into the kiln and at other stages afterwards – notably before and after glazing. With a bit of encouragement, an increasing number of Jim's learners have been taking their photos themselves – borrowing the camera at the appropriate point in the lesson. Every two or three weeks Jim has been transferring the photos to the relevant folder on his home computer and deleting them from the camera's memory. At the end of term he 'burnt' all of the folders, containing a number of images for all of the learners, onto a single CD and then made copies of this – which he gave to the learners. This meant that they could each see not only their own work but also that of everyone else as well.

Some of the learners are hoping to have their work included in exhibitions elsewhere so have taken additional photos of finished work, setting it up carefully with an appropriate background and good light. Armed with these 'promotional' photos and selected images from the CD, these learners have pulled together an electronic portfolio which they have used to send out to interested bodies.

Val teaches jewellery, doesn't have a home computer but has access to one at the centre where she works. Val already knows how to use word processing software to make handouts.

Val uses the camera to take 'snapshots' of her students' work as it progresses, taking lots of photos without stopping to check them at the time. Later she transfers all the images to the computer at the centre, quickly views them on the computer (clearer than the camera screen) and copies the ones she wants onto her 'USB flash drive'. Then she gets the resident IT expert at the centre to copy the contents of the flash drive onto a CD and deletes all the photos from the camera and the centre's computer. As they are now on CD, Val can also delete the images from the flash drive later on, if she runs out of space on it.

Val has used selected images from the students' work to make a number of handouts showing basic silver-working techniques - with step by step photos. She has printed these in black and white and then photocopied the handouts at the centre.

Towards the end of term, Val spent a couple of hours producing a summary of each learner's progress using some of the photos. She did this by inserting, then shrinking down, a number of selected photos for that learner into a two page document, and adding a brief note. Afterwards she printed all the documents on the colour printer at the centre and saved them all to a single CD, with a little help from the IT expert. Val gave the printouts to the learners and kept the CD with her course documents. She plans to use the CD at the start of next term to help in setting new learning goals for continuing students. With a bit of cutting, pasting and printing she also plans to use the CD to show new students what the course covers and to give them ideas for their own work.

E. Tips and Tricks

1. Plan ahead to make sure you have the camera available at the right time(s) during the term – especially if you intend to record a series of steps in a particular process. Then you won't have to re-do anything 'artificially' afterwards. You may also want to photograph raw materials before you start using them.
2. It's easier to 'frame' the photo correctly before taking it than to have to edit it on the computer later. Likewise it's easier to choose the low-resolution setting on the camera before taking the photo than to change it once it's on the computer later.
3. Explain to learners, in advance, why you will be using a digital camera and the benefits it can bring. Ask if anyone has a digital camera themselves and use that expertise if appropriate.
4. Plan in the time required to take photos during a session. This needn't be long but make sure it's planned in, and you've told the students you're going to do it, too.
5. For jewellery or small items, have a simple background ready (eg a tray of sand or a plain coloured cloth – perhaps pinned to a simple frame or piece of card so it stands up at the back).
6. If using artificial light, choose the appropriate setting on the camera to help get a more natural colour balance. For advanced users this can be improved further using photo editing software, but it's probably not worth it except on 'promotional' photos.
7. Where possible use natural light to give better colour and contrast. A large window helps, as does taking work outside – though may not be worth the extra time involved unless critical.
8. Use white card placed near the object to bounce light onto its darker side (either daylight or flash).
9. Use a tripod or bean-bag to hold the camera steady in low daylight situations.
10. Use the 'macro' setting on the camera for small items or extreme close ups – best with tripod or bean-bag.
11. Use lower-resolution setting on the camera for 'snapshots' as they take up less space in the camera's memory or on the computer. Use higher-resolution for 'promotional' photos.
12. Consider arranging for, or giving, a brief demo on using the camera so that learners can take photos of their own work themselves. Encourage them to think about how best to present their work for display/photographing (background, light, positioning...)
13. Once you have been using the camera for a while, get the learners to identify other uses and benefits – and incorporate these if appropriate.
14. Explain about copyright (see end of this document) and do not take photos that include pictures of the learners themselves unless they have signed a consent form to agree to this. May need to delete photos where non-consenting learners appear in the background.

15. Discourage learners from bringing in their own cameras unless you can vet all photos taken in the class to ensure they don't include learners who don't want to be photographed.
16. If learners within a centre are keen to have professional prints of their work, consider approaching a local photo shop and negotiating a discount.
17. Give image files meaningful names once they have been transferred to the computer (otherwise they are called eg pxc019932 which doesn't say much about the contents).
18. Print images onto OHP transparencies, if you can get hold of the ones for printers, so they can be projected using an ordinary OHP.
19. Some learners won't have access to a home computer to look at a CD, but many will. Those that don't can use a computer at their local library for free, normally for 30mins per day, or take their CD round to someone else's house.
20. Take the camera out and about and use it like a sketchbook – bring the images back to show your learners, or to inform your own artwork.

F. Note on File Sizes

Digital image files can vary greatly in size. A high resolution image can take up several times the amount of space of a low resolution image in the camera's memory, yet look no different if viewed on an ordinary computer screen. The exact space taken up by a single image varies a little depending on the textures and colours in the photo. A photo of an object taken with flash will often take up less memory space than the same photo taken in daylight – as the flash tends to 'washout' details so the image file contains less visual information.

As a general rule, use the lower-resolution setting on the camera for 'snapshots' - so they take up less space in the camera's memory or on the computer. Use higher-resolution for when you want higher quality images – eg ones that may be printed out as A4 photos for promotional work – or if you are an advanced user and plan to do something fancy with photo editing software.

Simple photo editing software can be used to significantly reduce the space taken up by a photo. This can be by 'cropping' the photo to keep only part of the image (eg the middle portion) and discarding the rest. Or it could be by re-saving the image at a lower image quality, or specific resolution, as shown below:

- 200-300 pixels per inch for normal printing on paper
- 150-200 pixels per inch for inserting into a word processor document
- 80-100 pixels per inch for viewing on screen

Note however that once the image has been re-saved in a cropped and/or lower resolution form then the excess information is lost for good. If you are likely to use the photo later for publicity or promotional purposes, keep a separate copy of the original full-size, high resolution image – with a different file name.

Copyright

Under UK copyright law, any piece of original work is automatically copyright-protected as soon as it has been recorded in any way – on paper, electronically, on film or in an audio recording.

Therefore, any work that is photographed by Devon ACL will be automatically copyright-protected – and the copyright remains with the original creator of the work.

Photographs of people

It is useful to include photographs showing people at work, to give an indication of the techniques and processes involved in the work. These photos will not be directly associated with individuals' names – though they may be associated with course details.

I
consent to images being used by Devon Adult & Community Learning which may include myself, and/or descriptions of my involvement in a course but which are not associated with my name.

Signed..... Date.....