



In this unit we will revise all we have studied over the last 9 units.

Revision

OK, now it is time for revision, we will go over all we have learnt to make your images better.

It must always be remembered that to get a correct exposure, i.e. one that is not over (too light) or under (too dark) exposed, the camera HAS to have the CORRECT COMBINATION of ISO, Shutter Speed and Aperture settings. If one of these three settings are changed one or both of the other settings must be changed.

So let us go through them once again.

ISO

The number after ISO (International Standards Organisation) refers to the sensitivity of the image sensor, a small number e.g. ISO50 means that the sensor is less sensitive and a slower shutter speed or a larger aperture lens setting will be needed. A high number e.g. ISO 6400 means that the sensor is very sensitive to light and will need a much faster shutter speed or a smaller lens aperture setting for the same scene.

High ISO setting, while very good for some situations, like getting a faster shutter speed, hand holding in low light conditions etc. does come at a cost, and that cost is in the amount of noise it creates in the image. Noise is seen mainly in the darker areas of an image and appear as small coloured flecks of light. They can be treated in some of the higher priced editing software, however it is best to avoid it if possible, so I suggest that you set your cameras ISO setting to 50 or 100 (Depending on your camera model). Importantly, make sure it is NOT set to 'AUTO ISO' because you will not know what setting it will want to use and increase the chance of it using a high ISO possibly to get a higher shutter speed and that of course will increase noise.

SHUTTER SPEED

Shutter speed refers to the amount of time the shutter remains open to expose the sensor. Shutter speeds range from camera to camera but will range between 1/8000sec to about 30 seconds and BULB. BULB is the setting where the shutter remains open while ever the shutter release button is held down. It is a very old term and was created in the very early film days and used by the photographer to open the shutter while he held up the old magnesium flash board and 'fired it. It is rarely used these days. The term has stuck and now allows the photographer to perform various trick shots, or take images in extremely dark areas. Shutter speed slower than 1/30 sec are not recommended for hand holding the camera as the image will be blurred by camera movement. To use these settings some form of solid support is needed to insure the camera does not move during the exposure. A bean bag, mini pod, gorilla pod, mono pod or tripod is required. A bean bag or tripod are the two recommended for use with the heavier DSLR cameras, with the others would be suitable for the lighter point and shoot style cameras. The faster shutter speeds will freeze some or all of subject movement in an image. However, a totally frozen image is not necessarily the best, a person running for example, it looks better if his legs and arms are blurred, otherwise he will look like he is standing still and posed. When using all tripods, it is advised to use some remote shutter release, as with using your hand and finger to release the shutter, you can still vibrate the camera and blur the image.

APERTURE

Aperture refers to the size of the lens opening. Obviously, the larger the lens is open the more light will pass through to the sensor. The aperture setting has its biggest effect on the Depth of Field (DOF) in the image. DOF is the area in front of and back of the actual focus point that appears acceptably sharp. A large aperture setting will give very small DOF, while a small aperture setting will give a much greater DOF. The greater DOF is good for landscapes, in particular where you have a family member in the foreground, while shallow DOF is good on portraits where you get the persons head nice and sharp while the background becomes blurry making the person stand out from the background.

As I have mentioned, to get a correct exposure there has to be the correct combination of these settings, ISO, Shutter Speed and Aperture. And the ONLY way to get the correct combination is to use an exposure meter, be it a hand held one (like in the older film photography days) or the use of a built-in one. All cameras today have a built-in meter, and while they do a good job most of the time, there are times where they can be tricked into doing something you don't want. The exposure meter cannot tell whether you want a fast shutter speed or a particular lens aperture. So you have to get away from using the AUTO setting and take control over the image, firstly, do not use the AUTO ISO setting, use ISO 100 where ever possible to minimise noise mentioned before, then if you want to use a particular shutter speed you can use the "S" setting (shutter priority) and select the shutter speed you require, then you will allow the exposure meter to get the correct aperture setting. Likewise, if you want to control the DOF in the image you would set the camera on "A" (aperture priority) and select your required aperture then letting the exposure meter choose the correct shutter speed. Just watch out with this one as the meter might want to use a slow shutter speed that is too slow to hand hold, if that is the case I would suggest you increase the ISO to get a faster shutter speed.

FOCUS

All cameras have an auto focus system built in, however, it is not fool proof, it doesn't know what subject in the viewfinder you want to focus on, it will probably try to average out the different points. Where you camera allows manual focus, to correctly the lens, zoom in to the subject, focus the lens to get it very sharp, and then zoom back to frame your image, this will insure your subject remains very sharp. With

subjects that have a predictable path, use manual focus on a point and wait till they pass that point to shoot. At the same time make sure you get the subject in your viewfinder very early and pan the camera with it and follow through after releasing the shutter at the pre-focused point. You will also have to use manual focus where you might have some foliage in the foreground or the camera wants to focus on a different person than the one you want. If at any time you are not satisfied with the auto focus go to manual setting of it. Remembering that auto focus does not always work properly in all conditions.

TRIPODS

Tripods, monopods, mini tripods, gorilla pods and bean bags are all ways to ensure that the camera does not move during the exposure. Gorilla pods and mini tripods are suitable for the smaller point and shoot style cameras, while monopods and tripods are more suitable for the much heavier DSLR cameras. Bean bags are suitable for all cameras and can be a valuable addition to any or all gadget bags.

There are two types of tripod heads, the pan and tilt or the ball and socket. The pan and tilt head is more suitable for video filming cameras as once the head is set level it allows the photographer to pan the camera keeping it level. The ball and socket head is much more suitable for the still photographer, as he can quickly set the camera up for the shot. When purchasing a tripod, make sure the tripod legs can spread very wide allowing the camera to be supported very close to the ground for low level shots. A monopod can be a big help if photographing fast moving sporting events like football etc. It will give the camera a firm base and allow quick panning or following the action. A tripod with only one leg extended can serve the same purpose.

ARTIFICIAL LIGHT

There are times when you need to bring in extra light from some other source. Just about all cameras these days come with a built-in flash, and can be helpful at times.

However, these built-in flash units have their own downfalls, namely their biggest sin is creating 'Red Eye' in the eyes of portraits. Also they create harsh shadows and create the 'police mug shot' effect. The flash, being full on to the subject gives no creative or modelling light, hence the mug shot. The red eye is caused because the flash being very close to the lens of the camera looks through the eye and lights up the blood vessels in the retina which the camera sees. Red eye problem can be corrected easily with a number of photo editing software but of course it would be better not to have the problem to deal with. They also are small and therefore cannot throw the light very far.

For cameras that can take the larger flashguns a lot more will be in your favour. More power, bouncing the flash off white ceilings or walls to give a softer light that looks more natural. Also, the flash head being further away from the lens means that there is usually no problem with red eye.

Flash is also used outdoors, in particular when photographing a person, the flash can be used with a reduced power so that it softens the shadows under the chin, eyebrows etc.

Studio flood lights, come at a cost, but can be very creative and produce pleasing results up against a nice backdrop.

COMPOSITION

Composition is the elements in an image that can either capture the viewers' eye and add to the image or distract from the main subject or story. Basically, if you keep your images simple, without too much in them, they will be more pleasing. If an object in the image distracts, remove it, before taking the shot, or at least later with editing software. A portrait of a person would look much better against a plain background rather than the same person and same pose against the front of a \$2.00 shop, the latter would cause the viewer to look over the models shoulder looking at the stuff in the background. This would be OK if you wanted to tell the story about where the person is, such as in front of a nick-knack shop in India.

Where possible, take a little more time before pressing the shutter release, look for distractions in the image and make adjustments to suit before taking the shot. Look at the composition keeping in mind the 'rule of thirds', leading lines etc. Look closely at the lighting and take notice where shadows fall, shadows should enhance rather than distract from the subject. Also look for human interest or stories, does the image tell a story.

TABLETS AND SMART PHONES

Tablets and smart phones are getting better (in the photography area at least) with every new model. They are producing results that is comparable to the point and shoot cameras Their downfall is that they do not allow for much if any manual settings. They also suffer from too much light on their screens making it hard to frame and compose your shots. They all have a built-in flash system for low light shots, but beware of the red-eye problem.

EDITING SOFTWARE

There are quite a few editing software programs available, some being available free on the internet. There is Photoshop, Photoshop Elements, Photoshop Lightroom, Picassa, Gimp and Corel just to name a few. One good one is a web based Pixlr from www.pixlr.com . However if you are looking to acquiring one, check them all out, noting their cost, etc, but I would get one that can handle LAYERS. Without layers you editing would be rather constricted. Also check and see if they will allow plug-in software in case you want to expand. Plug-in software such as Nik software and Topaz have some very good additions if your software can handle them.

Do not be afraid of using software after your shot, as you probably know by now, the auto functions in the camera cannot always produce the perfect shot, so you will have to some editing. Once you have mastered the software you can then start experimenting with altered reality shots.

WHAT NEXT

We looked at what you can do with your images, competitions, sites that can sell your images, build them up into audio visuals using sound with appropriate software such as Windows Movie Maker or one of the ProShow programs. I hope your images have improved and continue to do so. Remember, feel free to drop me an email should you have any questions. Ron at ronno13@iinet.net.au

Good shooting.