

A - GIVING YOUR BEST AS AN INSTRUCTOR

Teaching & Learning

Introduction

This section of the Instructors Manual is not intended to be an exhaustive resource for the theory of teaching and learning, but it gives an overview of some of the elements of this important subject.

Benefits of focussing on teaching and learning techniques

Engaging with trainees effectively and use of good teaching practices, enhances overall flight safety. In addition, organised and effective teaching methods make the experience more enjoyable for both instructor and trainee. Research shows that it is effective interaction with instructors and organised training that retains trainees to SPL stage and beyond. Good instructing techniques may well contribute to retaining members and increasing gliding participation numbers.

Why is the instructor there?

You are primarily there to teach the trainee to fly, but your goals should be much broader than this. Hopefully, you want to teach them to become a safe and competent pilot, who has the skills to develop further to achieve their goals – whether that is local soaring, aerobatics or a top competition pilot. This means helping engender appropriate attitudes and airmanship, not simply good flying skills.

Teaching is a skill; it can be improved like any other skill. So, becoming an instructor is not simply about ‘what to teach’ but ‘how to teach.’ You could start by thinking about the qualities that make a good teacher:

Empathy: recognising the needs of your trainees and how they can be addressed in an appropriate and sympathetic manner. Judging the pace that they can learn at, encouraging them and helping them through patches if they get demoralised.

Communication: finding different ways to explain things, or at a level that match their previous education and level of knowledge.

Preparation: delivering some of the training will become ‘bread and butter’ to you but giving the long theory briefings require preparation. Anyone who ever made anything look easy, had practised first. There are tools to help such as the instructor exercise training cards or prepared power point presentations. Having lectures prepared in advance for rainy days to help trainees get through the Knowledge Test are always welcomed.

Being a good role model; both in terms of your flying skills but more importantly your airmanship and behaviour to others.

Flexibility: very few instructors have the full repertoire of skills, either educationally or in terms of flying skills. Try to expand yours – one-to-one teaching is different from delivering a lecture, but both take practice. Think about

expanding your flying c.v. – do you want to develop your aerobatic skills or a TMG rating for example.

Enthusiasm: It is easy to keep your enthusiasm on wonderful soaring days – perhaps less so delivering classroom briefings in the rain. Just remember that enthusiasm is infectious – find ways to make it enjoyable.

Self-reflection: we can always improve – do not be afraid to ask your trainees for feedback on your performance and think about ways to improve.

Why is the trainee there?

Gliding draws its trainees from a massive cross section of society and occupations. People decide to take up gliding for a variety of reasons and different motives. Some specifically want to learn to glide, whereas others may wish to use gliding as a stepping stone to other flying. Hopefully, they will enjoy being part of a club and the team approach, but maybe they are just looking for the next hobby to conquer.

Understanding what motivates your trainees may help you to use the appropriate teaching style. Some may not appreciate too much motivational push from their instructor, but almost everyone thrives with encouragement.

What does your trainee know already?

Some trainees - perhaps the ones with some aeronautical knowledge - will be able to be brought on very quickly, because they already have some prior knowledge of the subject. With others, no prior knowledge can be assumed, and they will need more detailed handholding.

Trainee needs

Imagine you were embarking on a new adventure – for example, learning how to sail. What would you expect when you turned up at the sailing club for your first lesson? How would you expect to be treated? You would probably like:

1. an enthusiastic instructor who was interested in you.
2. to feel confident in the instructor's ability and knowledge.
3. to think the standard of your training was important to them
4. to feel comfortable and safe in the physical and mental environment.
5. to be given a coherent syllabus and some idea of how to attain the goals within it.

Addressing each of the above points:

1. It's easy to get stuck in a rut when the weather isn't to your liking, or there is a problem with the winch and you are keen to get home at a decent time, but the trainee is your (and your club and the whole gliding movement's) customer. It is essential to remain positive about things and get to know the trainee so that you can tailor their teaching

2. How would you feel at the club if a scruffy, unkempt individual arrived and announced that he was your instructor? It is good to present a (reasonably) professional first impression to the trainee. A confident and organised manner instils confidence but be honest if something is not in your area of expertise. Bluffing your way through will not inspire confidence and is potentially dangerous in some circumstances. Say you don't know or are not sure and engage your trainee in finding out the answers.

3. Make time for your trainee. Get to know what stage of training your trainee is at and their strengths and weaknesses, **before** flying. Take time to explain exactly what is about to be demonstrated. Think about it as a complete training session, not just the flying time.

4. The trainee needs to feel comfortable in their environment. For example, not being intimidated by the instructor, having the teaching environment being at a reasonable temperature, the seats being reasonably comfortable and the trainees being well hydrated, nourished and rested.

5. At the start of training, give the trainee the syllabus and explain where they can read up on the elements of that syllabus. After a training session, give them a steer about what they may be learning next, and where to find out about those elements of training. It is important to deliver the training at the correct pace for the individual trainee. It is no good forcing a trainee to spin a glider after the first few sessions if they will be frightened by the experience. 'Calibrated frights' and similar extreme teaching methods do not work.

TEACHING METHODS

Often gliding instructors love the flying side but are less keen on the theoretical training. Nonetheless, giving your trainees a sound theoretical basis will facilitate and accelerate their flying training. No matter how good an instructor you are, not every trainee will connect with every instructor or every teaching method. Some people prefer formal teaching sessions, others like group discussions and some prefer private study. Similarly, you may be comfortable giving a lecture but less comfortable leading a group discussion, but prior preparation always helps.

Giving a lecture

Before the lecture:

- **Define your goals.** Before planning your content, decide on the key takeaways you want students to remember.
- **Understand the knowledge level** of your audience—for instance, you will pitch a talk on cross country flying differently to a pre-SPL student compared to someone wanting to improve their cross-country speeds for a competition.
- **Structure your content.** The old adage is:
 - Say what you are going to say
 - Say it
 - Say what you have said.

This may sound dull but a proper introduction, followed by the main subject, and finishing with a summary of the key points that you want them to remember, works.

The educational concepts of 'primacy' and 'recency' suggest that people remember best what they heard first and last in a talk.

- Organize your material into short segments. Pause and check for understanding after each segment, take a brief moment to summarize the key points and ask students if they have any questions. This gives them time to digest the information and seek clarification.
- For longer topics or a series of talks, incorporate a short break/s to maintain focus.
- **Consider using visual aids.** Use presentation software such as PowerPoint support your key points. Preferably, not just text but appropriate and appealing images and graphics. Check the audiovisual equipment will work and have a back-up plan in case it doesn't!

Having a suitable model to hand in the teaching room is useful but it is amazing how much you can explain just using a ruler to act as a visual prop for the wings of an aircraft. Whatever you do - **avoid reading directly from your slides**. Either know them well enough that you don't need to or print off a paper copy as notes to have to hand. A handout for trainees means they can focus on the lecture instead of copying everything verbatim or save trees by offering to email them a copy of your slides!

- **Plan for interaction.** Questions to stimulate discussion, can engage the audience, rather than simply telling them information. Or incorporate a short activity e.g. lead them through plotting out the flight envelope, rather than simply putting the diagram up on a slide.

During the lecture:

- **Master your delivery.** Speak clearly and with enthusiasm, varying your tone and pace to keep students' attention. Use a conversational style rather than reading from a script, and maintain eye contact with the entire group. Think about whether you will sit or stand. If sitting down, it may pay to sit on a higher stool or chair in a larger group – people can both hear and see you better and you can see them to make sure you are keeping everyone engaged.
- **Make it relevant.** Real-world scenarios and anecdotes help keep interest but not simply a serious of disaster stories about 'accidents you have known and loved!.'

After the lecture:

- **Gather feedback.** Encourage students to give you feedback, e.g. through post-lecture survey. This helps you understand what is working well and what could be improved.

- **Seek peer observation.** If getting formal feedback from your trainees sounds a bit OTT, ask another instructor to observe one of your lectures and provide specific, balanced feedback on your delivery and trainee engagement.

Other Hints, Tips and Issues

Questioning

Asking questions at the appropriate place and time can be a good way to engage the student and helps you to appreciate their current level of understanding is so that you can tailor the information you need to deliver. Conversely, continual questioning when the trainee does not know the answers can feel threatening and demoralising.

If you have done a thorough theory briefing 'in the classroom.' then it is often an effective use of questioning to ask the trainee what items they need to refresh themselves on for the pre-flight briefing.

This technique will give you some idea of their understanding without asking the question *"Do you understand?"* which usually receives a meaningless 'yes.' If they have already grasped the aims and objectives for the lesson, then you can just re-enforce the key points if necessary. Otherwise go back over the exercise plan and aims in more detail to ensure their understanding before flying the exercise.

Being a Role Model

One way that the trainee learns is by example from their instructor. This means that the example and style of flying set by the instructor is an indicator of how the trainee will fly when solo and beyond. For example:

- If the instructor flies a very conservative circuit and always turns in early if the circuit is a bit low, then the trainee will do the same.
- If the instructor turns final at 200' and tells the trainee **not** to do the same thing themselves, the trainee will have that view of the circuit entrenched in their mind and will do it themselves, thinking everything is safe.

Even when flying solo, the instructor should be setting an example and acting as a positive role model to others.

Facilitating trainees' learning

Most people welcome structure and a syllabus, but very occasionally, some members may perceive organised instruction as being pushed too hard. Try to listen carefully and respond to the needs of the trainee. Agreeing to goals throughout training, however modest, will provide the structure needed to make progress.

Responsibility

Being an instructor of whichever category requires that you take responsibility for the high-quality training of your trainees. It also means that if something is spotted that needs rectifying, you personally ensure that this is carried out by yourself, or by another suitable instructor. This is especially the case when supervising the solo flying of inexperienced pilots.

Enthusiasm and fun

Safety is always paramount but remember this is still supposed to be fun!

Use of simulators for training

Increasingly simulators are finding a useful place as part of the training armoury. Experience is showing that many of the exercises can usefully be demonstrated and practised first in the simulator. (See chapter J)

The obvious advantages are:

- It is not weather dependant.
- It can be arranged at a bookable time.
- At any time, the demonstration or exercise can be stopped for further discussion or explanation
- It allows the exercise to be repeated multiple times.
- It is cost efficient.

Giving Feedback

The de-brief at the end of an exercise is an opportunity to give the trainee feedback to help them improve. Research suggests that you need to say 5 positive things to an individual when giving feedback for every negative point you make, no matter how constructively you put the criticism - otherwise they may feel demoralised.

One technique is to ask the trainee what they felt went well and then what could be improved. If they recognise their own strengths and areas for improvement and effectively debrief themselves, you simply need to reinforce the key bits that you want them to focus on. Trainees will often focus on a mistake they made, so give them a friendly reminder of all the things they did get right and the progress they are making.

STRUCTURING FLYING TRAINING

The framework within which we should be teaching consists of:

- **Theory brief** (formal classroom teaching/lecture)
- **Pre-flight briefing** ('by the glider')

The basic components of the pre-flight briefing are:

- the aim;
- the air exercise(s) (what, and how and by whom);
- flight briefing
- check of understanding; and
- airmanship. (TEM)

- **Air exercise**

Demo manoeuvre followed by trainee practice

- **Debrief**

The debriefing should cover:

- what went well
- what can be corrected or improved; and
- whether the student pilot has reached the required level of competence or the exercise needs further practice.

The Theory Brief

Theory briefs are often for teaching a brand-new area of theoretical knowledge. A subject can be taken from the theoretical syllabus. These briefings should ideally not be more than 40mins max. depending on the subject.

Pre-flight/air exercise briefing

Usually on the airfield but ensure you at least find somewhere away from the launch queue, so your trainees are not distracted.

The aim of 'ground briefings' is that the trainee understands the purpose of the flight, what is going to happen during the flight and why. Do not brief the poor trainee to death, especially out on an active airfield. Equally, there is no point getting airborne and trying to explain a complicated exercise such as approach control. It is an inefficient use of flying time and is much more effectively done on the ground first.

It helps if the instructor writes down the brief and ideally uses diagrams. These briefs should use a standard structure. See the 'BGA Instructor Reference Cards' on the BGA website.

- **The aim:** what are you as the instructor expecting the trainee to be able to do by the end of this lesson.
- **Exercise:** This is where you set out your plan and what you want the trainee to watch/take part in/have a go at. It should not go into a great deal of theoretical detail, but a very brief reminder of the relevant theory may be appropriate.
- **TEM - Threat and Error Management:** also known as Airmanship. What might be different about this flight - in relation to others - that may require you and your trainee's attention? Lookout is almost always included. Other examples might be; range to the airfield, minimum heights for stalls/spins, when to take control etc. Some people prefer to do the TEM at the beginning of the briefing rather than at the end and either is acceptable.

A pre-flight brief should never be longer than 15 minutes. If you are tempted to brief for longer it is either turning into a brief on the theory, or you are trying to cram too much teaching/information into the session.

'By the glider' Brief

This sort of brief is simply to reinforce any salient points. Something like, *"OK - Remember, I'm doing the launch, then you will have control when we have released. You're going to practice your speed control and trimming, I'll then talk you round the circuit and I will take control for the approach and landing."*

Airborne Exercises

Having briefed thoroughly, the trainee should be clear about what is going to happen in the air. The teaching sequence to use in the air should be:

- Demonstrate (to show the trainee what the end product should look like)

- Teach (remember to split the exercise into manageable chunks)
- Task (get them to have a go and remember – manageable chunks)
- Praise/debrief and if required, re-teach/return to one of the above.

During demonstrations, tell your trainee what you are going to do just **before** you do it. For example, *"When I move the stick forward, the nose of the glider will go down"*, then move the stick forward. This arms the trainee against the unexpected and the glider's response reinforces what you have just said.

Trainee's Attempts and Prompting

For the first attempt or two it may be necessary to give the whole of the patter. Prompting should be the minimum necessary to encourage sufficient movement of the controls and the required change of attitude. Prompts such as *"Lower the nose - that's enough,"* should be sufficient if the briefing and demonstration have been understood. Be conscious of the right amount of control movement in terms of *too little, too much* and *just right*. 'Just right' is a matter of personal preference; some pilots are much more positive than others in their use of the controls.

In all demonstrations and practice it must be quite clear to both pilots who is flying the glider at any given time. In normal circumstances, when you take control, say clearly, *"I have control"* and do not start flying the glider until you have heard the trainee say, *"You have control"*. Similarly, when you give or hand back control *"You have controlI have control ..."* take your hands and feet off the controls. Do not abbreviate the handover words to *"I have"*. The one possible exception might be a sudden emergency where there is not time to say all, or any of the words. Say the words if you can. The trainee will be more likely to let go the stick if you do.

Prompting and taking over control

Prompting a trainee is part of the instructor's toolkit and can be very powerful, even if the prompt is quite indirect. Think about prompting in the circuit. With some trainees, even a cough could be interpreted as a prompt. You might ask the trainee what they think about their position in the circuit but beware that this may be taken to mean their position is wrong. In a judgement exercise like this a prompt can be tantamount to taking control. One solution would be to tell them you will frequently ask if they think their position is correct, even when it is perfect. This can encourage them to consider it and make a judgement.

Sometimes you may wish to give the trainee a direct prompt, for instance, *"Turn left now."* If you want the trainee to now attempt to plan the rest of the flight, you must verbally hand control back to them. Perhaps, *"OK. I'll leave you to plan the rest of the circuit."*

You may decide to take over control physically from the trainee. If you do, you should make it clear why. It might be that you want their attention while you explain something in the air. You should tell them that you are taking over for that reason, as they may think that you have taken over because they have done something wrong. If you take

control from the trainee to avoid an undesirable situation then, especially if it is near the ground, do this earlier rather than later and demonstrate correct handling. Late takeover is the cause of many instructing accidents.

De-briefing

Possibly the most important part of the lesson. Do not omit this.

Any debrief should be constructive, talking about and reinforcing what has been learnt from this session. Praise what went well, point out where improvements can be made and discuss how that might be achieved. Then focus on what the likely activities for the next session will be, and what to do to prepare/read for the next lesson.

When observing and feeding back trainees' faults during their flying, it is important to diagnose the cause of the fault before talking to the trainee. Explain what they did well and then be specific about any faults and how to correct them.

For example, the trainee over-rotates during the winch launch. If you simply tell the trainee to stop over-rotating, they may not understand how or why to do this.

You need to try to analyse why it is happening e.g. are they over-rotating because they are not using appropriate visual cues (looking from side to side and judging their angle), or they have been told they can slow the winch down by pulling back harder (possible on some types and some the older winches). It is important to diagnose the problem correctly before suggesting a remedy.

It is tempting to point out all the points that could be improved upon at this point. When a pilot is learning, there will be a lot of these. Concentrate on the pertinent points and always end on a positive note.

What's next?

Before considering how to teach an exercise, first think through and decide which exercise to teach.

Talk to the trainee to ascertain their present knowledge and look at their logbook and record cards. Then work out the most appropriate exercises to teach or continue working on, based on the trainee's aptitude and previous experience, as well as the weather and available aircraft.

If previous training has been to a high standard, trainees will already know what they are likely to be doing today and may even have read up on the subject.

Some exercises follow on naturally from others but, it is useful for instructors to ask themselves what skills the trainee will need to attempt a new exercise.

Take approach control as an example. The trainee needs to be able to:

- have good speed control,
- know what the effects of the airbrakes are, and
- be able to fly in a coordinated manner in a straight line towards a fixed-point accounting for drift.

If the trainee cannot do these things accurately, they do not have a hope of flying a reasonable approach.

Continuity

Flying with a single instructor throughout a trainee's entire training is not ideal, as different instructors will have different methods of teaching a skill to a trainee. However, being taught by a large variety of instructors – a different one perhaps every week for a couple of months – makes continuity of training difficult. Good communication, via the logbook and in some cases by e-mail and word of mouth, is essential. Writing a recommendation for the next exercise in the logbook is a huge help. Structured courses will be immensely beneficial for a trainee's progress.

Teaching 'in chunks'

Trainees rarely have the capacity to absorb more than a few points at a time; likewise, instructors rarely give convincing demonstrations when involving more than a handful of items. Lessons can be more effective when split into easily digestible chunks.

Each 'chunk' can contain a demonstration followed by trainee practice, then analysis and perhaps more practice. For example, you might choose to select simply 'staying in the turn' as a 'chunk' of the turning demonstration for one or two winch launches to ensure the trainee is happy before moving on to the rest of the turn.

A lesson built from a series of 'chunks' sounds slower, but this is generally false. A trainee taught in this way will more often progress more swiftly than one who is expected to do everything at once.

Conclusion

If instructors put themselves in the position of the trainee learning to fly, much of the above is common sense. The basic structures described above work. Training is most effective for the trainee, when a little time is given to preparing the correct exercises and tailoring them to the needs of the trainee. Although we normally charge by the minute in the air, good instruction starts as soon as the trainee drives in through the gate. Grasp the opportunity to give them the best 'training session' you can.