

Online Seminars – The New Normal

Prologue

The Coronavirus Covid-19 pandemic has affected the aviation industry greatly and pilot training even more so. Instructors and examiners suddenly became unemployed or furloughed, and yet to maintain their privileges and qualifications they still were required to meet revalidation criteria.

The UK CAA issued several documents under the Official Record Series 4 (ORS4) which allowed extensions to certificates and ratings. Unfortunately these documents were unclear and confusing, and more importantly arrived a week after the UK went into lock down. Furthermore, some of the content had to be changed and consequently the documents were re-issued nearly four weeks later which was over a month after the lock down had come in to force.

Needless to say the aviation community was considerably disadvantaged by this process and very confused about what certificates and ratings could be extended and how this was to be achieved.

One of the instructors at On-Track Aviation, Jon Cooke, was keen to dispel the rumours and myths and make sure pilots, instructors and examiners all knew the correct process of extending ratings and certificates. On-Track Aviation proceeded to deliver three webinars to the pilot community over the course of several weeks during the early part of the lock down explaining the extension process. These webinars were delivered online using commercially available video telephony and online chat services e.g. Zoom. They proved to be very successful and from these webinars online seminars were conceived.

As with any event, the amount of preparation reflected the degree of success of the event. The webinars were relatively straight forward events with a single person delivering a single power point presentation with a second person helping out. That's what the pilot community witnessed.

The reality was quite different. Jon and I had to learn the new software functionality and fast. Just downloading the free software wasn't the solution because this only allowed for a run time of 40 minutes and the planned presentation was at least double that in length. As the pilot community ran in to thousands the potential numbers attending the webinar were potentially very high. This fact had to be taken into account as well. So the decision was made to invest in a version of Zoom that provided the right support and features, and could accommodate high numbers of participants.

We had the software but we still needed to learn how it worked. Over the next week we worked hard to get to grips with the various Zoom functions and soon realised that this wasn't going to be a one man show. To run smoothly it needed a

support/technical person alongside the presenter to monitor the software and co-ordinate the audience participation functions e.g. chat, questions, raised hands, etc.

Moreover, the expected run time of 1-2 hours for a webinar is a long time when one is staring at a computer screen, tablet, etc. However, people watch movies and play games on electronic devices for just as long, therefore it was felt that the length of time proposed shouldn't be too great an issue.

Clearly the hard work paid off and the three webinars were a success, but could this be developed into an online seminar with multiple presenters lasting one or even two days?

The Challenges

The initial discussions raised several issues needed to be addressed for a one or two day seminar and are discussed in the following paragraphs.

The Health and Safety Executive (HSE) recommends that people using Display Screen Equipment (DSE) such as computer screens should take regular breaks. (Figure 1)

Extract from <https://www.hse.gov.uk/msd/dse/work-routine.htm>

Working safely with display screen equipment

1. Overview
2. Workstations and assessment
3. **Work routine and breaks**
4. Eyes and eyesight testing
5. Training and information
6. MSDs in more detail

3. Work routine and breaks

The law says employers must plan work so there are breaks or changes of activity for employees who are display screen equipment (DSE) users.

There is no legal guidance about how long and how often breaks should be for DSE work. It depends on the kind of work you are doing. Take short breaks often, rather than longer ones less often. For example 5 to 10 minutes every hour is better than 20 minutes every 2 hours. Ideally, users should be able to choose when to take breaks.

In most jobs it is possible to stop DSE work to do other tasks, such as going to meetings or making phone calls. If there are no natural changes of activity in a job, employers should plan rest breaks.

Figure 1

To run an online seminar lasting a day or two requires everyone involved to follow the HSE guidance on DSE. This had to be built into the programme. Another issue was equipment. Jon and I both had computers which were capable of delivering a webinar for a couple of hours but what about one day or even two days? Would the other On-Track Aviation team member's equipment be up to the task?

Furthermore, the computer software (or operating system) used by each presenter may be different e.g. Apple, Windows, etc. Would these all work together? How old was their equipment? Is it capable of delivering power point, videos, etc clearly and with good sound quality over the internet? Nothing could be assumed and therefore it all required checking.

The online seminar is reliant, by its very nature, on the quality of the internet connection. Additionally, the internet connection of each presenter needs to be of good quality and robust enough to support acceptable audio and video for the duration of the seminar. When Jon and I delivered the webinars we discovered that starting them in the early evening was prone to problems e.g. poor sound or video. We think this was probably due to the USA waking up and going online. After all we were using Zoom, which is software developed by a company based in California, USA. Given that the seminar would be run during the UK day time the problems we encountered with the webinars would probably not reoccur.

As Donald Rumsfeld once said, and I paraphrase '.... we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know.'

Going forward with the online seminar preparation felt a bit like this.

Options for Change

On-Track Aviation conducts three different types of seminar; Senior Examiner SPA, Examiner and Instructor. The first two are single day events with the Instructor being a two day event.

After discussions with the UK CAA we set about planning the first online seminar which would be an Examiner one. This was chosen because it is a single day event without breakout groups or workshops, which would mean a simpler and a more straight forward seminar to organise.

The idea was to deliver the current venue based examiner programme online using Zoom. The venue based seminar was made up of a series of one hour interactive presentations giving a total training time of six hours. In addition, there were morning, afternoon and lunch breaks with registration starting at 0800.

Some small modifications were made to ensure that HSE 'working safely with display screen equipment' was followed and surprisingly the event fitted into the same training window as a venue based Examiner seminar (Figure 2).

Examiner Seminar Programme - Online

0800 - 0900	Registration
0900 - 0920	Introduction & Programme
0920 - 1020	Pilot Licensing
1020 - 1030	Short break (10 minutes)
1030 - 1130	Examiner Techniques
1130 - 1140	Short break (10 minutes)
1140 - 1240	LAPL/NPPL
1240 - 1325	Lunch (45 minutes)
1325 - 1425	PPL
1425 - 1435	Short break (10 minutes)
1435 - 1535	Class Ratings
1535 - 1545	Short break (10 minutes)
1545 - 1645	Infringements
1645 - 1700	Question & Answer (Q & A)
1700	Conclusion

Figure 2

Having established a programme the next issue was to train the On-Track team to deliver it online using the Zoom software. A series of online training sessions was organised to do this. And here is the first of the known unknowns! How do you train someone to use online based software online whilst under lock down?

Obviously everyone had to down load the software before the training could begin. Initially we trained using laptop/PC combinations with one of the devices acting as the communications platform while the other was used to manipulate the software functions. Once this was mastered the training expanded to include tablets e.g. ipad, because the way the Zoom controls are displayed on a tablet is very different to a PC or laptop. Fortunately the displays and controls on an Apple system were similar to a Windows system when comparing like for like e.g. windows laptop compared to Apple laptop.

No training session is ever full proof and it became apparent that some of the equipment being used by the On-Track team did not support all the Zoom functionality. Given the wide range of computer skills in the team it was pleasing to see that everyone quickly mastered the basics of the system and during each subsequent training session team members were appearing in front of an assortment of virtual backgrounds from lavish Victorian houses to palm tree soaked beaches and of course the odd questionable picture!

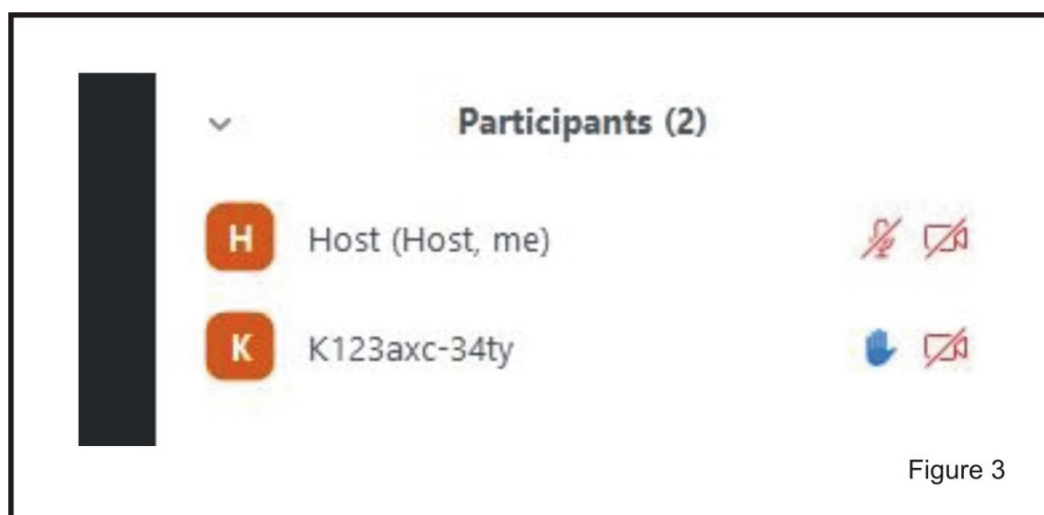
‘...we also know there are known unknowns;..’

Before going ‘live’ it was decided to have a practice session and invite the UK CAA to attend as part of the approval process. It was a Friday morning and the all the participants were logged in, power point presentation ready, video and audio

checked, and the curtain rose ...to reveal a power point slide on a 60 cm x 30 cm computer screen! Of course, when delivering online seminars you don't see your audience, well not all of them just a few videos around the edge of the screen; another known unknown.

From the presenters point of view it is like speaking to oneself whilst looking at a blank wall. There is no interaction; there are no faces, no eyes staring back at you, there is no feedback what so ever. Now that takes a bit of getting use to considering all our previous seminars had a live audience.

This creates another issue. How do we deal with questions? Normally you can see the entire audience and when someone wants to ask a question they can raise their hand or attract your attention in some way. But online you can't see the entire audience. Fortunately those clever people at Zoom have thought of this and there is a feature where by a person can raise an electronic hand (Figure 3).



How can you see this if your screen is filled with your power point presentation and videos of the audience? By controlling the size of your screen so that you can display the audience (participants in Zoom speak) as a list of names at the side or top of the screen (Figure 3).

That seems straight forward enough but wait, who is 'K123axc-34ty'? I am staring at the list of names in the participants list. That's strange I don't recall that name. Stay calm there has to be a simple explanation. The delegates only get to join the seminar if they sign in using a code and password. So it's got to be someone that was invited but who is it?

The way Zoom is set up each delegate can input their name when they join the seminar. If they don't do this the default name used by Zoom is the device name. Easy solution is to ask the person for their correct name. 'The participant who has joined as 'K123axc-34ty' what is your name please?' No response. The question is repeated, but still no reply. Explain that their microphone is muted, that might help. Still no response. Need to think this one through.

The delegate who joined does not know that they can input their name and therefore they are not aware that the system has allocated their device name 'K123axc-34ty' as their participants name. Obviously they are unaware of their device name because the device they are using isn't their own and may be borrowed from a friend or relative. Wow this is complicated! It was eventually resolved by a process of elimination which took several minutes.

The practice went well and more importantly a great deal was learnt from it. One such learning point was to do with the internet. As I mentioned before Zoom relies on a quality internet connection to work successfully. During the practice one of the participants dropped out because of a poor connection. They tried to reconnect but the security protocols only allow access into a waiting room and not directly into the seminar. It was several minutes before the participant was missed and then re-admitted. A paying delegate who drops out for a technical reason and then can't re-enter is not something that can be missed. Vigilance is the answer and another set of eyes watching over the proceedings is a necessity, and so the technician is born.

The online seminars need both presenters and technicians to ensure they run smoothly. We decided to put together a small team of technicians to observe each of our seminars. They help to keep track of the participants and re-admit any that drop out, identify each one to ensure they are the person who has signed up and most importantly to give technical advice where needed. This latter function proved to be the most used as I will explain later.

A Computer or a Tablet?

To be able to deliver the online seminar not only requires the Zoom software but also the right device. It does not matter whether you run an Apple or Windows based device but what is important is the quality of the product. In simple terms one would not try to dig a hole with a small fork. The right tools for the job, is a must.

My choice is a computer as the main device. It should be fitted with a high speed processor, plenty of memory, a good quality video and sound card combined with a good quality camera and microphone as this combination gives the best results. If you wish to use a virtual background then a green screen should be used (Figure 4). I also have a tablet and a laptop logged in. The reason for this is explained later.

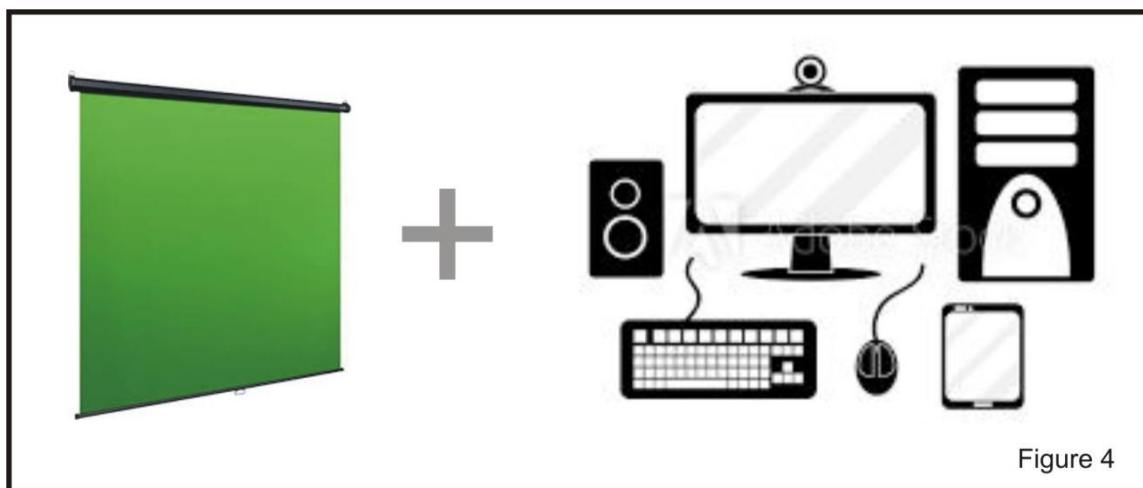


Figure 4

A virtual background is a great addition as others don't see your room, furniture and belongings. It is also a simple and effective security feature. On-Track Aviation has adopted a personalised virtual background for all seminars (Figure 8).

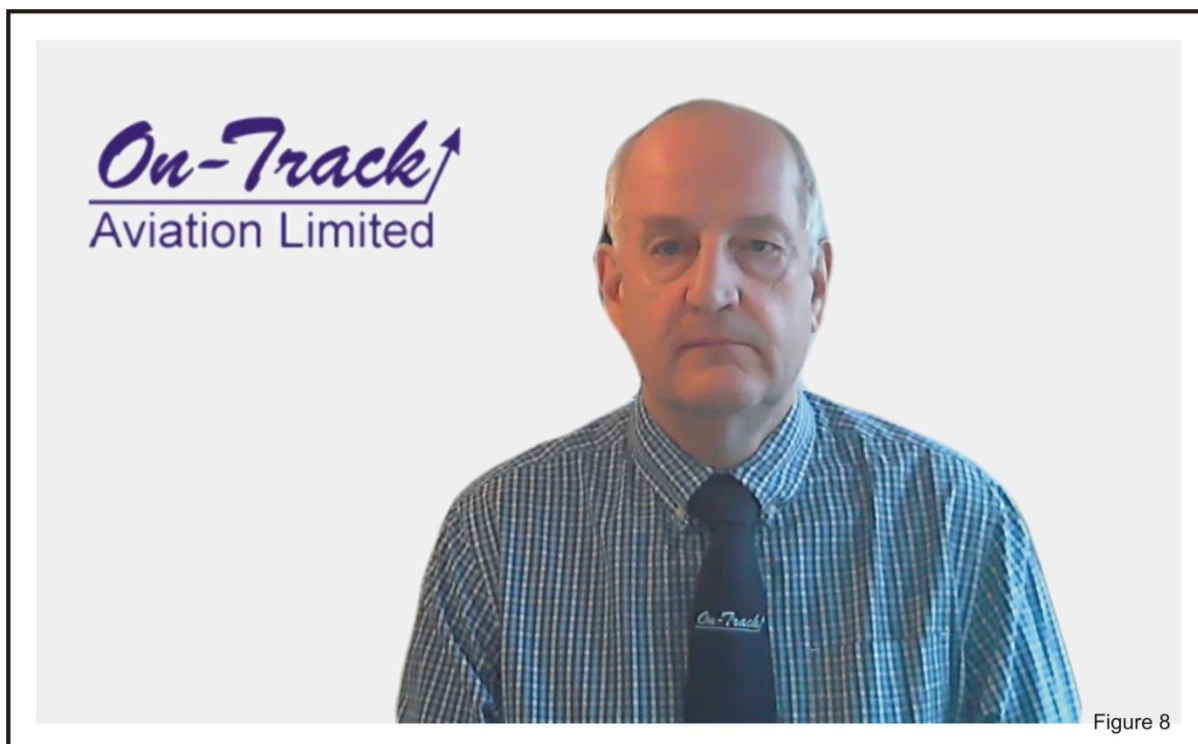


Figure 8

Another one of those known unknowns crops up because, as a presenter, you can't see what the audience see. In a live seminar the presenter can turn and look at the projector screen to confirm the image is correct. Unfortunately, this is not the case when delivering the same presentation online. A simple solution is to have another device logged on as a participant. This will display your image, slide, etc as the audience see it. A laptop or/and tablet is ideal for this however your smart phone may do the job depending on its type and size.

Here is another gotcha in that it is not possible to deliver a power point presentation using 'presenter mode' where both the image and notes are visible to the speaker. A printed set of notes with the slides solves this issue.

Workbooks

Delegates attending our venue based seminars receive a workbook containing copies of the presentations, the programme, presenters' biographies and other useful handouts. To be able to provide a similar package we made use of our seminar web page and provided a link to the workbook for delegates to download all the information for themselves.

Surprisingly some delegates still thought they would be sent a hard copy of the workbook. Old habits die hard!

There is an option within Zoom to send files to the participants whilst they are logged into the seminar. A word of caution about doing this; tell your participants they are being sent files otherwise they may not see them and once they have logged off the information will no longer be available to them.

Registration and Licence Action

The registration and payment process for any On-Track Aviation seminar is completed online through our web site. On arrival at a live venue the delegate has their identity confirmed e.g. passport, photo driving licence, etc before being allowed in. In addition, we ask for their pilot licence, examiner certificates, medical, logbook and other paperwork as applicable to the type of seminar they are attending. As an Approved Training Organisation (ATO) we have a duty of care to ensure those attending our seminar to check that their documentation is in order.

Senior examiner delegates complete their renewal or revalidation process through the CAA. Whereas instructor and examiner delegates may be revalidated or renewed at the end of the seminar. Therefore, delegates need to supply documentation showing that they have met the appropriate revalidation or renewal requirements.

The online seminar creates yet another challenge; how to complete this renewal or revalidation when the delegates are attending from home? The first issue was to get the documentation from each delegate to assess if they have met the requirements. The online registration form provided the ideal method to capture this information (Figure 6).



Instructor Seminar Online

Dates

Name

Title

First

Last

Address

Address Line 1

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

Telephone *

Please supply a telephone number that we can contact you on the day if you have any technical issues

Email *

Photo-Identity Document Type *

Photo-Identity Document Number *

Photo-Identity Document *

Upload

or drag files here.

Colour copy of your Photo-Identity Document (pdf, jpg, gif; max file size 2 MB)

Licence Number *

Licence Type *

EASA National Aviation Authority *

Licence, Medical *

Upload

or drag files here.

A legible copy of your complete Licence (front and back) and Medical (pdf, jpg, gif; max file size 2 MB)

Logbook, Assessment of Competence, Other

Upload

or drag files here.

Provide evidence to support your revalidation/renewal. Legible copy of logbook only required for revalidation by experience. Ensure instructional hrs are identified (FI/IRI - 50 hrs in 3 years, 10 hrs in last year if teaching for IRI)(CRI - 10 hrs in 3 years) (pdf, jpg, gif; max file size 2 MB)

Instructor Certificates

☐ FI
 ☐ FI (Restricted)
 ☐ IRI
 ☐ CRI

As shown on your Licence

Revalidation or Renewal

☐ Revalidation
 ☐ Renewal

Revalidation = not expired
Renewal = expired

Instructional privileges

☐ CPL
 ☐ PPL
 ☐ LAPL
 ☐ SE (class/type ratings)
 ☐ ME (class/type ratings)
 ☐ IR
 ☐ EIR

☐ IMC / IR (Restricted)
 ☐ Night
 ☐ Aerobatics
 ☐ Towing
 ☐ Seaplane
 ☐ Instructor Certificates
 ☐ FCL 945

As shown on your Licence

Figure 6

The next issue was how the Flight Instructor Examiner (FIE) or senior examiner was going to sign the pilot's licence. There appeared to be a number of ways to do this:

- The delegate could post or bring their pilot licence to On-Track Aviation on a mutually convenient date/time.
- The delegate could reach out to a local FIE or senior examiner to sign their licence.
- Examiners could send their completed applications to CAA for action.
- An On-Track Aviation FIE could complete and sign a 'continuation slip' for the revalidation or renewal of an instructor certificate which would then be posted to the delegate (Figure 7).

UNITED KINGDOM
Civil Aviation Authority

XII - CERTIFICATE OF REVALIDATION

Name: _____ Licence No: _____

Rating	Date of Rating Test	Date of IR Test	Valid Until	Examiner's Certificate Number	Examiner's Signature

Figure 7

Of the options discussed the most appropriate for examiners was the third one (CAA action) and for instructors it was the fourth (complete a 'continuation slip'). This resolved any issues the delegate might have about sending a licence through the post or trying to find an FIE or senior examiner locally. Those delegates who live close to On-Track Aviation could still bring their licence to the office for signature if they wished.

Interaction with Delegates

This is probably the hardest part of delivering the seminar online. You are not able to get the same interaction with the audience because they won't all be visible to you, unless you have a really, really, big screen! Limiting the number of participants may help, but that might not be practical or economical.

Moreover, this invisibility makes it far easier for delegates to hide and not participate in any of the discussions. Now to some that may seem like a real advantage to doing a seminar online – anonymity. I am sure those who don't ask questions learn just as much as those that do, but from a presenter's perspective it makes the delivery so much more challenging. There are ways around this and the one which we have adopted is the three P's (Pose Pause Pounce). In other words ask the question, wait a moment or two to allow everyone to formulate an answer and then nominate an individual to answer the question. Now that may sound a bit brutal but at the beginning of the seminar during the introduction it is made clear that questions will be asked and more importantly it is quite alright to say 'I don't know the answer'.

In our experience this seems to work just fine and the delegates soon become accustomed to the concept. From a presenter's perspective this requires an excellent memory for names! Alternatively you could just have a list of participants in front of you – I am very much a list sort of person.

Security

An important aspect of any online event is security. Zoom in the eyes of some organisations has some security issues and therefore is not used by them particularly when involving business or confidential meetings. However, a seminar doesn't need to go into confidential issues and generally the topics discussed are of a specific nature e.g. instructional techniques, lessons, test schedules, etc. None of this is private or confidential. There is of course the concern that someone 'bombs' the seminar in the same way a TV reporter might get 'bombed' when doing a piece to camera in a crowded street. I am sure you have all witnessed this on live TV or in programmes such as 'it'll be alright on the night'. Access to your Zoom meeting can be secured by using a registration protocol, codes, passwords and a waiting room feature.

Instructor Seminar Workshops

Online instructor seminars pose particular challenges that are unique compared to the other types of seminar. Firstly, they last 2 days and secondly they require breakout groups and workshops to be part of the programme. Historically when conducting an instructor seminar at a venue we have allocated each delegate to a syndicate within each syndicate they put together a 15 minute presentation which is then delivered to a group of other syndicates in a breakout room. However, the online version can not reflect the venue based one for a number of reasons:

- The delegates are at home and could be located anywhere around the world / country and therefore cannot get together easily to produce a presentation as a group in the time allocated.
- The issue of audience participation and interaction mentioned previously is just as real an issue for them as it is for us.

- Each individual could be asked to produce a 15 minute presentation and on the day of the seminar individuals could be selected at random to deliver them. There isn't enough time to allow everyone to do this and those that weren't selected will feel they have wasted their valuable time.

A new approach to the problem was required. It took us a while to formulate a practical solution that fitted into the time allocated and resulted in delegate participation. The answer came in two forms; the first was a workshop based on the Instructor Assessment of Competence Section 1 Theoretical Knowledge subjects (Figure 5).

AMC3 FCL.935 Instructor Assessment of Competence

Section 1 Theoretical Knowledge Oral

Air Law
Aircraft general knowledge
Flight performance and planning
Human performance and limitations
Meteorology
Operational procedures
Principles of flight
Training administration

Figure 5

The second was based on a flight profile with a series of questions relating to the pre-flight, in-flight and post flight actions. These questions would cover a variety of topics that instructors should know about practically e.g. decode this TAF, describe Met Form 215, etc.

Each workshop was made up of a group of delegates with similar instructional privileges who were renewing and revalidating. In addition, we looked at the instructional experience and tried to spread it within each workshop. This way there was a balance in each workshop and therefore no one should feel at a disadvantage. Each workshop was facilitated by an On-Track Aviation instructor and planned to last about 2 hours. The facilitator would arrange breaks and direct the discussion around a series of topics ensuring everyone participated. As all the On-Track instructors are Flight Instructor Course (FIC) instructors and the majority of these are also Flight Instructor Examiners (FIE) this provided a good opportunity for the delegates to further their knowledge. The workshops are not graded and delegates are free to admit that they do not know the answer to a question. There is no shame or retribution for a lack of knowledge a seminar, after all, is a place for learning and not a test of knowledge.

The number of workshops was governed by the number of facilitators and the number of delegates in a workshop needed to be limited to ensure good interaction. From these two limitations the maximum number of delegates able to attend the online seminar emerged. On-Track Aviation's online instructor seminar is therefore limited to a maximum of 60 delegates.

The feedback received was all positive and the delegates seemed to enjoy these small workshops as they found the discussions beneficial and enlightening.

Staff Communication

When conducting a seminar at a live venue it is easy to communicate with all the staff and presenters and deal with any issues that may, from time to time, occur. Online seminars make this process less straight forward. On-Track Aviation uses presenters who are located all over the UK which is a challenge in itself. There is a small admin team that man the office when the seminars are running but everyone else is at home. You might be forgiven for thinking that communication isn't really an issue at all because Zoom is a communication platform, so why not just use that? Private messages via the chat system do work but in some cases it is quicker and easier to pick up the phone and have a conversation. All the presenters remain available throughout the seminar even though their microphones and videos are switched off.

When things do go wrong they happen quickly, as was the case during one seminar. One presenter's internet began to fade out and eventually stopped working altogether. Intervention had to be immediate and speaking directly to another presenter over Zoom was the best and quickest way to resolve the issue. As the possibility of an internet malfunction had been discussed with the team the next presenter was ready to go and the whole process from start to finish seemed effortless from an audience's point of view – a known known.

Delegate Computer Skills

There is no need for any delegate who attends an On-Track Aviation seminar to download any software. The reason for this is that the Zoom link sent to delegates contains all the information to allow them to join the seminar. Simply paste the link into a browser and allow the software to run automatically. All that is required is to input the meeting code and password when prompted.

It is a fact that some people find computing a black art and others seem to take to it like a duck to water. Not surprisingly we found that the idea of an online seminar frightened some delegates and they chose not to attend because of this. Others admitted their lack of computer skills and asked for help prior to the seminar. One individual spent a morning with a member of the On-Track team learning how to download and use the Zoom software, all free of charge. Anyone who might feel

anxious about attending an online seminar because of their lack of computing skills is encouraged to get in touch with On-Track Aviation.

To further reduce anxiety amongst our delegates we actively encourage people to download the free Zoom software and take a few moments to familiarise themselves with the functions and controls.

As a delegate there isn't a need to have a 'super computer' but there is a requirement to have both video and audio functions. Any computer, laptop or tablet will suffice, however we discourage the use of smart phones as the screens can be a bit too small to view the presentations. It is recommended that you view the seminar from a quiet room away from distractions. Wearing a headset may also be prudent. If you have any questions please contact On-Track Aviation.

At the start of every On-Track Aviation seminar there is a short description of the software controls that appear on a computer, laptop and tablet. As a delegate the important controls to you are:

- How to switch on/off your video and microphone
- How to raise and lower your electronic hand
- How to use the chat function
- How to view all the participants

Many of you will run your electronic devices on battery power for the majority of the time you are using them. So picture this scene.

A young man is using a tablet and headset to view the seminar in a quiet room in his house when all of a sudden it stops working. First it is irritation, then swearing at the device followed closely by panic and anxiety that his seminar attendance is in jeopardy. The following few minutes, which seem like hours, has him searching frantically for that power lead that he remembered was in the top drawer of the desk, but isn't there anymore. He feels a tug on his headset and looks around to see his tablet falling towards the floor tiles. His goal keeper like response has him diving towards the falling tablet only to hit the floor hard with a crunch. He is winded. He looks up at his left hand to find the tablet securely in its grasp preventing certain destruction if it had hit the tiled floor. He places the tablet back on the desk and continues his search for the power lead. The dawning that the kids may have taken it to their friend's house which is in the next town, followed immediately by relief when the power lead is found. Finally back online. However, the relief is short lived. He is in the waiting room and can't rejoin the seminar. He checks his watch. How long has it been? Only 10 minutes. Where are the joining instructions which contain the On-Track Aviation telephone number? The realisation that they were downloaded onto the tablet! Finding the downloaded instructions seems to take an eternity. Finally, he gets the number and calls the office explaining he dropped off line and needs to be re-admitted.

The morale of this story is that any device used to view an all day or two day seminar must be connected to an external power source right from the start.

Going Live

On-Track Aviation has completed a number of seminars covering all three types. They have proved to be a success and the feedback from the delegates has been positive. There will always be 'known unknowns' to face each time a seminar is run but they will be outnumbered by the 'known knowns' with solid preparation and an excellent and enthusiastic team of presenters. The next planned instructor and examiner seminar is 5/6/7 October 2020. See the On-Track Aviation web site for details.

Epilogue

In these challenging times aviation has to adapt and change to new ways of doing things. Flight training needs to move forward as the technology allows. Remote learning, especially for theoretical knowledge subjects, has been around long before the arrival of Covid-19. Online learning used as an integral part of the practical side of training is just beginning to emerge and the online seminar for instructors, examiners and senior examiners is one such change that I am sure will be with us from now on.

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