Interactive webinars

One Saturday morning
Contents

Abstract .......................................................................................................................................................... 2
Introduction .................................................................................................................................................. 3
Method and empirical findings .................................................................................................................. 4
Adobe Connect ........................................................................................................................................... 4
Gilly Salmon’s 5-stage model ..................................................................................................................... 5
‘Sparks’ and the wording of the good question .......................................................................................... 8
The physical structure ................................................................................................................................. 9
Participant learning .................................................................................................................................... 9
Design of instruction material ................................................................................................................... 10
Contents .................................................................................................................................................... 12
Video and sound ......................................................................................................................................... 13
The interactive design ................................................................................................................................. 14
Conclusive remarks ................................................................................................................................... 16
Aspects worth considering for future projects .......................................................................................... 17
References .................................................................................................................................................. 18
Abstract
This report is the conclusion of a miniature project that was realised under the auspices of CELM (Centre for E-learning and Media). The project commenced in 2012 and was concluded in 2013.

The empirical process is based on 15 interviews with the participants and the instructors who played an active part in three methodically different webinars held in 2012. For the project, we have also included a series of e-learning theorists and a number of consultants drawing on practical experience.

The hypothesis of this project is that if there is an increased focus on interactivity, this would add to the learning of the participants while at the same time also keeping their attention. In this context the report addresses such issues as reflections on technology used, participant learning, instructor and facilitator roles, process design, interactive design and the use of video and sound.

By way of conclusion, the author argues that three equally valid and mutually dependent aspects can be defined based on the characteristics of the target group. The three aspects concern the objectives/learning objectives of the activity, process design and technology used.
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

Introduction
This report concludes a miniature project started in 2012 and finalised in 2013.

The project concerns experiences with and reflections on the use of webinars in the perspective of dissemination and has focused on dissemination of knowledge from a knowledge institution to external parties. The report also discusses which buttons to turn in order to make webinars more involving and interactive.

The term ‘webinar’ is composed of the terms ‘web’ and ‘seminar’ and the designation ‘digital online seminar’ is quite appropriate.

Conducting webinars is an interesting way of communicating since they can potentially enable knowledge institutions such as VIA to communicate knowledge efficiently to a large number of stakeholders across large geographical distances.

Being a knowledge-generating institution, it is our obligation to interact with the ambient world in the best manner possible and disseminate the knowledge that we acquire and produce to our students, partners and the general public.

Prof. Diana Laurillard from the UK sets the standard by relating the size and needs of the target group to the resources expected to be available in future:

The demand for lifelong learning throughout developed and developing societies alike will continue to increase, as all countries need a higher proportion of the workforce to be skilled, and all citizens need to be able to master basic skills of literacy, numeracy and now information literacy as well. There is no hope that we could generate the teaching workforce that could cope with this demand on the model of our existing educational systems. We have to find cleverer ways of using technology to scale up the quality and value that teachers provide. (Laurillard, 2008, p. 153)

However, we will need to redesign and rethink our instruction habits and conventions when using new media technologies. It does not make sense if we just transfer our ‘old approaches’ from the classic classroom to the new context (Heilesen, 2002). The new technologies offer us alternatives, which we must use actively. The following three examples all illustrate new ways of tackling dissemination or instruction.

For one of the processes used for this project we met virtually with the participants (students at the diploma programme from private companies) one Saturday morning and also had an additional guest lecturer ‘on the side.’ The participants rated this is a positive process. They had no difficulties rising directly from their beds to join a course on project models while the rest of the family was having breakfast or watching a repeat cartoon show.

In another process, we organised a webinar with the well-known British author and innovation professor Joe Tidd. This process involved between 350 and 400 students, who followed the lecture and asked questions along the way. Texts by Joe Tidd are a compulsory part of the curriculum of many of these students and this was a chance to actually ‘meet’ him.

A third example concerns the private company, Exhausto, which manufactures ventilation systems. The company regularly organise webinars for its customers. These webinars mostly offer presentations of Exhausto’s product lines but in the process they also give the customers an opportunity to express their wishes and needs in relation to the design of new products. According to project manager and head of department Henning Grønbæk, these webinars help ensure that Exhausto reaches its customers in new ways (Jelsbak et al., 2012).

All three examples serve to demonstrate that the technology offers new ways of disseminating knowledge. There are, however, also a considerable number of challenges. The author of this report has attended a wide range of webinars – and there have been some ‘glitches’ here and there. In some cases, the webinar is a conventional, digitalised lecture with no form of interaction or inclusion of the attendants. With this highly deductive mode of instruction, the attendants are easily tempted to check up on their e-mails or read the paper on the Internet while attending. Especially US webinars designed for a high number of attendants are characterised by this passive form of instruction (Jelsbak et al., 2012).

The hypothesis of this project says that if there is an increased focus on interactivity, this would add to the learning of the participants while at the same time also keeping their attention. Instead of the deductive way of instruction, the platform of this survey is to look towards CSCL/CSCW (Computer Supported Collaborative Learning and Computer Supported Collaborative Work) where interaction is a focal point and where knowledge is shared and constructed by the participants.
This is a well-known problem and to many it is an explicit objective to find new ways of supporting the dialogue and interactivity in the virtual space (Clark & Mayer, 2011, p. 304) (Young, 2009, p. 1).

Method and empirical findings

The conclusions and points of the survey rest on experience from three surveys conducted in 2012. These three surveys involved three webinars in different contexts, and in parallel with this fifteen people were interviewed either in brief live interviews or via e-mail. To this should be added feedback from four companies who participated in a seminar organised by the Alexandra Institute jointly with VIA University College. The following three sessions were included:

1. A webinar for about 360–400 students where the context was an innovation week with students at five different locations around Campus Horsens. Interviewer and facilitator were in a room all by themselves, while the lecturer, Professor Joe Tidd was in Great Britain. The webinar lasted about 45 minutes and for the latter half the participants asked questions.

2. A webinar for 10 students at the ‘Project Strategy and Organisation’ course in connection with a post-graduate and continuing education programme. In addition to the facilitator and the teacher, who were sitting together, a third guest lecturer also contributed from his home. A total of twelve locations were involved in this webinar. The webinar took place on a Saturday morning and lasted slightly more than one hour.

3. A webinar for eight companies discussing development of business models for the service sector. The lecturer and the facilitator were sitting together and the webinar lasted about one hour. Announcements of the seminar had been made in advance through a newsletter with registration via the Internet.

Videos were recorded of all three processes. In addition to the three video recordings, the empirical material comprises brief interviews with relevant experts, the lecturers concerned and selected participants. Minutes were taken of the interviews and the minutes were later compiled in a spreadsheet presenting the points and summary opinions of the interviewees.

The 15 interviewees were asked to state their opinions to six general questions which relate to:

- What are your experiences with participation in (and perhaps organising) webinars (number, contexts, good and bad experiences)?
- What aspects influence your motivation to participate in and perhaps organise a webinar?
- What aspects influence the learning and experience of the participants when taking part in a webinar?
- How can the relatively deductive ‘classroom instruction’ be supplemented by technologies and methods that add to the collaborative and interactive elements?
- Your attitude to webinars, including potentials and aspects that the organiser needs to be aware of.
- The empirical evidence is regularly supported by relevant theories and written material from consultants who have their own platforms built on years of practice.

The analysis and the conclusions of the report build on three elements. The three video recordings of the webinars concerned have been interpreted. These videos were viewed repeatedly and constitute the foundation of the report. There is no direct reference to the videos but they constitute highly essential background material.

Additionally, there are the 15 interviews already mentioned and feedback from participating companies, and finally the report draws on relevant literature.

Ken Molay and Julia Young are both independent consultants. They are both authors of several articles that organisers will definitely benefit from if they want guidance on how to conduct interactive webinars. Gilly Salmon and Diana Laurillard operate on a more theoretic level and focus on developing a didactic approach in connection with e-learning, where organisers can transform and take the education industry to the next level. Finally, Clark & Mayer have written a very operational book featuring many guidelines that can be applied by teachers who develop their own digital material.

Adobe Connect

Before the three webinars took place, available technologies were carefully scrutinised. VIA University College uses MS Lync. The only drawback is that this system is more ideal for virtual conferences where everybody can see everybody whereas the system chosen – Adobe Connect – was designed specifically for the purpose of organising webinars. The choice of platform rests on a comparison of the two systems and was supported by Hans Tosti’s experience with different platforms. Tosti is a Danish expert with years of experience, among others from previous employment with IBC, Kolding, and very knowledgeable when it comes to webinar technologies. IBC has chosen Adobe Connect after having benchmarked it against several systems such as Go to webinar and Illuminate (Jelsbak et al., 2012)
The choice of technology is essential for what you want to achieve as a teacher. Adobe Connect is a safe and reliable tool for holding and designing webinars. The largest technical challenges of the project in relation to holding the three webinars were in relation to the Apple OS. Unfortunately, there were often found to be problems with the Mac computers. Quite simply they had too much downtime. Despite this, Adobe Connect is found to be a good system when it comes to speed, synchronisation and usability while also offering some valuable features.

When the organiser is as dependent on technology as we were in connection with the three sessions, it is essential to have technological back-up procedures. Many people are familiar with Murphy’s law: “Anything that can go wrong, will go wrong”, whereas fewer people know O’Reilly’s law that says: "Murphy was an (bloody) optimist". This only serves to emphasise the need to think all elements through and think what if.

It is a good idea to remember to have spare computers, internet connection, contents back-up, headsets, battery etc – but everything has its limits, of course.

_Emergency plans are part of your preparation as well. You want to maximize the ability to complete your web seminar if there is a technical problem during the event. Of course, there is a trade-off between trying to counter every possible problem situation and working within practical considerations of cost and complexity._

(Ken Molay, 2013)

**Gilly Salmon’s 5-stage model**

In her books _e-moderating_ (Salmon, 2011) and _e-tivities_ (Salmon, 2004) Gilly Salmon, British professor and expert on distributed instruction, sets up a 5-stage model for distance education. The model presents a staged process and focuses on encouraging interaction and participation in an e-learning education programme. The point of departure in one of the books is that many teachers find it difficult to engage students in dialogue.

In our opinion, there is valuable inspiration to be found in Salmon’s 5-stage model despite the differences in terms of focus and empirical evidence; i.e., for example the circumstance that Salmon developed her model in 2004 when the technologies were known as ‘Bulletin boards’ and FirstClass (Salmon, 2004, p. 3). These were primarily asynchronous technologies and times were different – not only as regards the state of the technologies and the features they offered but also as regards the technological skills expected from the participants. Organisers must expect today’s participants to be more technologically savvy.

Another major difference is the length of a course. Salmon’s model was designed to support long-term courses – typically lasting several weeks – where this survey typically focuses on webinars as stand-alone events or alternatively running fewer times.

Salmon’s model focuses on optimal behaviour and learning on the part of the participants as well as the very structure of an e-learning course, including progression and stages. The model does not centre around the presentation of the contents.

Despite the differences, valuable knowledge can found in a re-interpretation of the 5-stage model as can be seen from the figure below. The model is relatively simple and focuses on the progress that a process – or in our case an activity – ideally goes through. The left hand side of each stage of development relates to the technical challenges whereas the right hand side states what each teacher needs to focus on in his/her facilitation of the process. The activity indicator to the right of the development stages indicates the degree of interaction. This shows that more activity is expected for the stages ‘Information exchange’ and ‘Knowledge construction.’
Under ‘Access and motivation’ the most important challenges concern how to make the students log into the system. This is a critical success criterion that you cannot under-estimate. The facilitator also needs to encourage the students to participate, support them and greet them with a warm welcome.

For our purpose, we sent an e-mail to the participants before holding the webinar with a link so that they could test their set-up. Moreover, we minimised the risk of unsuccessful login so that the user did not have to enter a specific password but only a random name. In our three sessions we suffered no problems with login.

An in-principle decision for holding the three webinars was that we would start at the agreed time, irrespective of whether a single participant’s set-up was not in optimum working order. Usually, these difficulties come down to the participant’s set-up or a poor internet connection. Instead the facilitator tried to guide individual participants with technical problems in a private chat during the different sessions.

As the participants logged in, they were typically greeted individually by the facilitator and encouraged to write a little about themselves in the chat, for example what they expected to achieve from the session or a short presentation of their background. In all three cases, we also displayed a screen bidding the participants welcome acoustically and visually. Besides playing the function of a welcome screen, it also functioned as a sound test. If all participants could hear the sound, ‘we were well on our way.’

The second stage of Salmon’s model concerns ‘Online socialization’. At this stage, the participants are starting to get used to the virtual learning environment. It is up to the facilitator to create the platform for online socialization, and the focus is specifically on establishing confidence.

In our context, confidence was created by the facilitator’s welcome greeting to every single participant as he could tell they were present online. Doing so he acknowledged each participant as an individual. As already mentioned, he also encouraged the participants to write a little about themselves in the chat.

‘Information exchange’ is the third stage where dissemination of the topic is a focal issue. In addition to communicating his/her topic, the teacher/facilitator must see to it that everybody has a role to play and that all are active participants.

At this stage in the webinars held, the lecturer would disseminate his/her specific topic and on occasion there would be debates, Q&A sessions and polls where the participants were encouraged to provide answers.
At the fourth stage, which is ‘Knowledge construction’, the participants construct new common knowledge. At this stage, the participants are collaborating – from the ideal perspective. We were present at this stage to a limited extent. A few times discussions were raised with open questions where new common knowledge was generated as a collaborative effort based on input from the participants.

Adobe Connect allowed us to establish break-out rooms that small groups could ‘exit to’ and where they could discuss or work on a group assignment. It is also possible to create a common document for everybody to write in. However, it is imperative to emphasise that Adobe Connect is not a groupware system and as such not designed for collaborative work as for example Group systems or similar systems.

At stage 4, Salmon recommends the facilitator to withdraw and leave control to a single participant.

The final stage of the model is termed ‘Development.’ This is where the participants start to build on the knowledge and concepts they have acquired. The objective is to enhance participant reflection and create additional and individual value for the participants at the individual level.

When it comes to holding webinars, it would be the evident course to have the participants work on their cases in between several webinars, just like models and questions can be handed out towards the end of an activity for reflection and further individual deliberation.

**The role of the instructor**

Another of Gilly Salmon’s points is that the conventional role of the instructor must be supplemented or replaced more extensively by the role of facilitator if the e-learning process is to be successful. This is supported by empirical evidence. Julia Young (Young, 2009) underlines like Salmon that the teacher must learn to think like a facilitator. However, empirical evidence also suggests that it is a good idea to split the roles so that there are both a facilitator and a teacher. For most people it is not possible to get the grasp of all aspects of a webinar (Jelsbak et al., 2012).

Where the teacher or the lecturer focuses on the academic aspects and the dissemination part in the shape of his/her presentations or exercises, the facilitator directs his/her attention towards:

- The technical aspects – whether ‘everybody is in’ and whether the webinar runs without technical ‘hick-ups’
- A sort of master of ceremonies, holding the microphone and perhaps also presenting participants and lecturer(s) and thereby tying the whole pow-wow together
- Reading, rounding up and communicating questions and answers from the participants via the chat
- Encouraging participants to be active during the session and perhaps reply to questions asked
- Making sure that the lecturer keeps tabs on the time and does not ‘skip’ any interactive elements along the way.

Especially when it comes to new teachers, it is critical to post a good facilitator, not only as regards the technical aspects but also as a sounding board in terms of the didactic composition (Jelsbak et al., 2012).

Below is Ken Molay’s visualisation of the ideal course of a webinar lasting one hour (Ken Molay, 2013). Judging from this, you might sense that the organiser will profit from dividing this task between several people. Another lesson learnt is that it is valuable to develop a common ‘manual’ for the actual realisation of the process.
In the table below, Ken Molay presents his arguments why publicly available webinars involve more than the two previously mentioned roles. Besides the roles as facilitator (moderating) and teacher (presenting), he also includes roles for coordination/administration and marketing. This is mainly relevant when it comes to disseminating knowledge to external parties. It really does not make much sense to deliver the world's best webinar if there are no participants.

<table>
<thead>
<tr>
<th>Functional role</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>Coordination/Administration</td>
<td>Schedules the event, manages setup in the web conferencing system, coordinates with other team members to ensure deadlines are met</td>
</tr>
<tr>
<td>Marketing</td>
<td>Promotes the event and drives attendance</td>
</tr>
<tr>
<td>Presenting</td>
<td>Delivers information to the audience</td>
</tr>
<tr>
<td>Moderating</td>
<td>Supports presenters with introductions, technical support, Q&amp;A facilitation, recording, and other on-line tasks</td>
</tr>
</tbody>
</table>

As an additional point, Molay (2013) recommends that when composing the programme and preparing the content you must ensure that everything is focused on creating value for the participants. This excludes questions such as; “Would you be so kind as to help me with this survey?”. You should only conduct the survey if it creates value for the participants (Molay, 2009).

“The single most important tip is to approach your work from the audience’s perspective. This philosophy should influence everything from initial planning, content preparation, delivery style, and follow-through after the event.”

(Ken Molay, 2013, p. 1)

‘Sparks’ and the wording of the good question
One of the interviewed instructors encourages organisers to think in terms of a meeting instead of conventional instruction. This means that you share things, do brainstorming via the chat, use the whiteboard and in advance phrase a few good points for the participants to reflect on and discuss (Jelsbak et al., 2012).

The idea of putting a few good, involving questions into words also relates to what Salmon refers to as ‘sparks’ (Salmon, 2004, p. 100). Sparks can be a dilemma, a problem, a challenge or a model. The idea is to use a problem which is relevant for the participants and which underpins the overall subject of the activity as the point of departure. Innovative and creative processes use the term focus issue. A good and carefully phrased question is essential because it lends the activity a direction and a focus. There are many similarities between ‘spark’ and a ‘focus issue’ in an innovative process. Both are for example intended to catch the attention and involvement of the participants.
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

The former knowledge centre for innovative processes at CVU Vitus Bering worked empirically and intensely on developing criteria for the good, involving question. The author of this report was a project manager of this knowledge centre for a period of four years, and in the light of experience from this setting it has become evident that questions must be worded in an open and challenging manner thus encouraging activity and involvement. The ‘good’ question has the following characteristics, among others:

- open – it does not point towards an evident answer
- clear – everybody can understand it without further explanation
- challenging – it encourages an innovative way of thinking
- exciting – it paves the way for involvement.

The focus question or ‘the spark’ must of course be an integral part of the learning objectives that are defined for the activity. Despite a high number of new activities and roles, it is essential not to forget or give an inferior priority to the learning objectives of the participants.

Another way of attracting a high number of people to a seminar is if they can get to see or hear the ‘bigwig’ – i.e., a celebrity (Jelsbak et al., 2012). Precisely in connection with webinars, celebrities – or highly esteemed experts – can be asked to join the session in a relatively easy and low-cost manner, simply because webinars are independent of geography. The famous lecturer can stay at home in his own office and deliver a first rate lecture to the participants.

The possibility of taking this one step further and having the expert join the studio was discussed with the Alexandra Institute. This gave birth to the concept of setting up an expert panel that would offer advice to companies. Similar to a talkshow, the panel is to try to provide answers to problems, questions or dilemmas with dialogue as the focal point. The point is that the context of this concept provides ample opportunity to develop new formats that in all probability will fit into the frames of a webinar.

The physical structure
Just like the conventional role as instructor includes reflection and perhaps redesign of the physical ‘classroom’, organising webinars also comprises design of the physical structure of the actual ‘broadcasting’. In our experience, organisers will profit from considering the following:

- That the facilitator and instructor can see and interact with each other (write notes, use gestures and facial expressions etc.)
- That the organiser distributes a calm background image if an image of the facilitator and/or instructor(s) is being broadcast
- That the room is free of interventional noise and traffic, for example by colleagues
- That the technical devices, including camera, microphone and headsets, are of a good quality. We recommend to use a wired headset to avoid the battery from discharging completely
- That the organiser considers whether it might be a good idea for facilitator and instructor to stand up at a high table during the webinar (standing up usually releases more energy)
- That there is a computer logged on as a participant so that facilitator and instructor can see what the participants see during the entire session
- That there is a watch available, allowing both facilitator and instructor to keep track of the time they have consumed.

The organisation and layout of a radio studio could serve as a source of inspiration. Holding webinars and broadcasting radio programmes have many aspects in common. Despite the fact that radio programmes are usually not particularly interactive and visual, they can serve as a source of inspiration in terms of organisation and perhaps format.

Participant learning
One instructor believes that the ‘skilled’ students will acquire knowledge by participating in seminars whereas the less skilled will drop out in the process. The reason for the dropout risk is supposedly the lack of personal contact between instructor and students. According to this instructor, you have to allow for this when planning the instruction. In other words, you need to re-think the context of your instruction (Jelsbak et al., 2012).

Another instructor is of the opinion that the academic skills of the student are not the decisive factor, the core issue is the dedication and motivation of the students. They need to think that the subject is exciting. In this aspect webinars are not much different from the conventional classroom setting.
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

Diana Laurilliard believes that the asynchronous communication known from web-based discussion groups for example, gives better opportunities for reflection than synchronous technologies - such as webinars.

*Asynchronous discussion formats allow a lot more time for reflection before responding than synchronous ones*  
(Laurilliard, 2008, p. 143)

Webinars offer the possibility of recording the session and subsequently distributing the recording via the Internet. This is an excellent feature for people who are unable to attend the activity in real time. However, recording webinars also poses a dilemma. Some participants might think that they need not participate in the webinar in real time since they might as well watch the recording later. Experience has it, however, that participants rarely get to see the recordings (Jelsbak et al., 2012). Another point is that there is not much point in holding a synchronous webinar if most participants will watch the recording later. The energy in the real-time aspect of the webinar suffers and instead you might produce a dedicated video recording on the same subject.

The comments from the five interviewed students suggest that almost everybody had a positive view on the webinar they attended. According to most of the students, the webinar lived up to their expectations and the dialogue was beneficial and instructive. One student, however, took a critical stand to the fact that not all participant could talk at the same time, just like the same student missed being able to see the instructor's facial expressions. Aspects and experiences of the participants’ use of microphone and camera will be addressed separately below.

**Design of instruction material**

When designing his/her digital instruction material, an instructor needs to take a wide range of aspects into consideration. Since it would be too extensive to go into detail here, only the most critical aspects will be addressed.

According to Clark & Mayer (Clark & Mayer, 2011) one of the most important aspects is to focus on coherence (*the coherence principle*). Your material must be coherent, and as an instructor you must stick to the relevant points and not sidetrack by telling small stories that might confuse the participants as regards objective and relevance.

*Applying the Coherence principle - perhaps our single most important recommendation is to keep the lesson uncluttered. In short, according to the coherence principle, you should avoid adding any material that does not support the instructional goal. The coherence principle is important because it is commonly violated, is straightforward to apply and can have a strong impact on learning.*  
(Clark & Mayer, 2011, p. 151)

The same authors also advise you to be careful with redundancy, which in this context means that you should not use both text and speech if they are saying the same thing. Most likely we have all suffered PowerPoint shows where the lecturer has read out aloud the exact wording of the slides – not always particularly inspiring.

*Applying the redundancy principle - explain visuals with words in audio or text: not both*  
(Clark & Mayer, 2011, p. 153)

They also argue in favour of making use of simple and easily understood graphics (Clark & Mayer, 2011, p. 164), and in Julia Young’s experience, the actual presentation and the material must be brief (Young, 2009). Furthermore, you must make a note before the webinar is held which sections of your material you might skip, if you ‘run out’ of time.

Before actually holding the webinar, you might benefit from defining a survey, phrasing a few questions or producing small assignments that the participants must work on before the webinar. You can also distribute literature that you expect them to have read beforehand. Julia Young defines this as *pre-work* and in her opinion this will contribute to the participants’ involvement in the webinar and its contents and ensure increased activity during the actual webinar (Young, 2009, p. 7).

Usually, this will require registration in advance so that you know participant numbers and characteristics. With electronic registration the actual registration form should preferably have as few fields to fill in as possible.
According to Ken Molay, it is a typical error to make the registration form too complex and too time-consuming to fill in. This will of course mean that a large number of potential participants in the webinar will not complete the registration process (Ken Molay, 2013, p. 2).

Registration is also necessary to get a reliable estimate of the number of participants. The number of participants plays a great role to the didactic design of the webinar. As a rule of thumb, the less participants the better the opportunity for personal interaction and knowledge sharing among the participants.

Julia Young lays down the following characteristic features in relation to group sizes:

**Mini webinars: 5-10 people** – These are characterized by a conversational tone, feeling of sitting around a table with everyone having airtime. There is the opportunity to get to know each other and build social capital that can lead to sharing of personal stories and experiences in a trustworthy environment. Many face-to-face activities are adaptable to this size group.

**Small webinars: 10-25 people** – These are characterized by limited airtime for all participants. Web collaboration tools allow everyone get ideas down quickly on a shared online flip chart to stimulate and focus the discussion. Voting tools facilitate collection of prioritize and opinions. Share materials ahead of time for more interactive discussions.

**Medium webinars: 25-50 people** – Here, the connection with and between participants is more distant and less personal. Web collaboration tools are critical for a high level of interaction and to keep people engaged. Guest speakers help focus discussion and create interesting debrief on group input. Webinars of this size require tightly facilitated Q&A.

**Large webinars: 50-150 people** – Panel point-counter point discussions keep audio conversation lively while collecting comments back and forth between participants on a shared flip chart. Deliberative polling (pre- and post-) focuses participant attention on the key issues and illustrates changes in ideas over the course of webinar. Capture group comments online for a documented takeaway.

**Very large webinars >150** – No matter how designed, here the interaction is limited. Webinars of this size tend to be more communication venues with a subject matter expert or panel in conversation or making a presentation. They can be compared to a radio or TV show with text messages or blog entries from participants. Interaction may continue asynchronously after the webinar.

(Young, 2009, p. 5)

The webinars we have held confirm the above observations, although on an empirically thin basis. The two sessions we held with few participants were characterised by good dialogue and considerable attention to the individual participants. The large session with between 350 and 400 participants was structured more like a lecture and a talk show with the audience asking questions through the interviewer.

Young states in the above descriptions that the use of collaboration tools is critical to establish a high level of interaction and to keep people involved (medium webinars). And precisely this point leads to the discussion of the importance of choosing the right platform and type of system – depending on what you as an instructor want to achieve with your session.

As facilitators and instructors in virtual space, we must be aware of and have a basic knowledge of the different technological options available to us today. In this way, we are able to match our instruction objectives with the technological opportunities in the best way. We need not know everything there is to know about the technological platforms and their possibilities but we do need a certain degree of technological skills when we are to develop an adjusted process while at the same time detailing our instructional objectives.

Conventional webinar platforms typically involve an *information push* from one person to many participants, which means that the lecturer ‘pushes’ or communicates *his/her* knowledge and information to the participants.

Often, however, a participant *pull* is required if for instance the objective is to carry out a virtual brainstorm or a joint knowledge sharing process. If so, knowledge, ideas and opinions need to be ‘pulled’ and collected from the participants. This is an ‘all to all’ process.
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

Here the group and the knowledge that the group possesses are the focal points. Software that supports these types of processes are often termed groupware and are based on a collaborative foundation. Characteristic of this type of software is that they also typically make the participants very active, and by their very nature the meetings are interactive. These two different approaches are described in the table below.

<table>
<thead>
<tr>
<th>Collaborative Meeting Software</th>
<th>Web Conferencing Software</th>
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<tbody>
<tr>
<td>Web collaboration software tools focus on pulling information in from participants and creating a highly interactive meeting environment for both real time and asynchronous collaboration. These tools are designed with a facilitated workshop process in mind. Technology includes tools for:</td>
<td>Web conferencing tools are most useful for pushing information out to participants and are real time only. Technology includes tools for:</td>
</tr>
<tr>
<td>• Brainstorming</td>
<td>• Presentations</td>
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<tr>
<td>• Categorizing</td>
<td>• Shared desktop</td>
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<tr>
<td>• Voting / Prioritizing</td>
<td>• Shared applications &amp; whiteboards</td>
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<td>• Group decision making</td>
<td>• Chat</td>
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<td>• Surveys</td>
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<td>• Action plans</td>
<td>• Recording</td>
</tr>
<tr>
<td>• Meeting Documentation</td>
<td>This field is in flux and an increasing number of free and inexpensive web conferencing tools are emerging, combining presentation with VOIP and video options.</td>
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</tbody>
</table>

(Young, 2009, p. 6)

Contents
In the previous sections, the spotlight was on technology and processes but how about the contents. Is some content more suitable for webinars than other content?

The sections above concluded that the more participants in a webinar the less interaction. If the academic or technical content requires a high degree of interaction, it is of course beneficial with a small group of participants.

The interviewees are divided into two groups when it comes to the question of whether contents and literature discuss this subject in detail. One group believes that it is easier to communicate knowledge based on facts. Among their arguments are:

“My immediate impression is that it is difficult to have discussions, it is difficult to decode the signals made by the participants. There is no room for intimacy. Factual matters are better.”

“The easiest thing to learn and to teach is factual knowledge, theory – and focus on learning of basic skills. Webinars are not suitable for plenary discussions and interaction is difficult.”

(Jelsbak et al., 2012)

Another person argues that the topics where you really need to sense the class are the ones that are most difficult to handle in a virtual setting. However, the question is whether it is in fact necessary to sense the class if you are to communicate fact-based aspects? Some of the interviewees seem to believe so. They argue that it is difficult to be specific as regards the type of content that is easiest to communicate via webinars. One person believes that in this context we are battling prejudice in terms of what can be done. Of course, there may be areas where digital communication is not expedient – for example when it comes to laboratory exercises and physical group exercises – but even sessions with psychologists and coaching are being offered more and more in virtual settings.
Video and sound

The use of video and sound is something where people’s opinions and attitudes really differ in terms of in-principle decisions and design.

The authors Clark & Mayer are very clear in their statement. They believe that the instructor must be visible since this adds to the learning outcome of the participants.

Make the Author visible to promote learning

(Clark & Mayer, 2011, p. 197)

This author has learnt other lessons, however, from using videos in conference systems and webinars. Quite rightly, it is ideally beneficial if the lecturer is video transmitted. However, there is more to it than that. For one thing, video transmission is a relatively cumbersome affair where you need to get the quality absolutely right. The video is often not completely in sync, the quality is inferior or it hesitates and in the worst of cases it ‘steals’ bandwidth from the sound. In addition, the video takes up space on the computer user interface. This relates to ‘space management’ and interface design. For the webinars we have held, space has in most cases been required for a PowerPoint presentation, an online list of participants, an agenda and a chatbox.

It all depends, however, on the situation (what and who communicates, bandwidth, space management etc.). For one of the three sessions we used video all through the webinar. For this context, we found that there was a point in doing so because the webinar involved a well-known professor. The interviewer was also visible during questions. Finally, we also intended to display an image of some of the students to support the lecturer’s sense of his audience. Below is a screen print of the webinar.

In another session, the lecturer was visible only at the beginning of the webinar, as a sort of punch line and introduction of him. Following this, the screen only focused on running the PowerPoint presentation and the chat. For some tests we tried to run five videos at the same time but this was more than the system could manage, even with a good band width available.

While video is a topic of discussion, sound is not really something to debate. Good sound is absolutely decisive to a successful webinar. Several people have attended a webinar with inferior sound. It ruins the experience, quite simply (Jelsbak et al., 2012).
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

A frequent topic of discussion is, however, the sound of the participants, i.e., the circumstance whether all participants can speak to everybody. This has been desired by many instructors and a few participants. There is a flaw in the current version of Adobe Connect, however, as it has no form of automatic mute or echo functionality. This means that there is often an echo if the participants use computer integrated microphones and loudspeakers. This problem is not encountered with MS Lync.

Instead, the approach in our sessions was to switch on the participants’ microphones one by one. For example if a participant asked a question over the chat, he/she could subsequently elaborate on the question by way of speech and talk to all participants. This is well in tune with the advice that Gilly Salmon provides on video usage.

Invite participants to use video when they ask questions if they wish to, but no pressure

(Salmon, 2011, p. 229)

It is imperative not to push participants into situations where they feel exposed or vulnerable. We also know this from the lecture hall. Here, many students do not wish to stand in front of 100–200 of their peers, even if they have a good question. Many people prefer the opportunity to express themselves in writing, even in small groups.

From a didactic perspective you might ask whether it is a good idea to allow the participants to discuss things among themselves when they are working together to solve a problem. This is a question worth pursuing, as is done by Clark & Mayer.

What are the tradeoffs to synchronous collaborative work using audio compared to collaborative work using chat?

(Clark & Mayer, 2011, p. 303)

The tradeoff is that it is easier for all ‘to write at the same time’ than ‘to talk at the same time’ but then again it depends very much on the characteristics of the target group. And finally, the written word is easier to document in for example a report or a presentation whereas the spoken word comes more natural to many people.

The interactive design

It is not unknown for participants in a webinar to do other things - such as writing e-mails or reading online articles. So what can you expect from your participants as a lecturer or an instructor? Can you reasonably expect participants not to engage themselves in other activities during the webinar?

The two consultants, Ken Molay (2009) and Julia Young (2009), highlight this very relevant issue but disagree. Young believes that you should not accept the participants multitasking and busying themselves with other activities, whereas Ken Molay argues that this is the situation today and that there is very little you can do about it. He expands by proposing that you should see what students attending a university lecture can handle while at the same time following the lecture.

Gilly Salmon underpins this by arguing that you cannot expect participants to sit glued to the screen with their headphones on, concentrating over a long period of time, no matter how interesting the presentation. It is critical to include participatory techniques before the webinar, during the design phase and during the actual webinar session (Salmon, 2011, p. 227).

The actual design phase of the presentation is essential since this is where the ‘tracks’ are laid for running the seminar. Salmon suggests that in principle there should be a 15-20 minutes’ presentation following by a Q&A session (Salmon, 2011, p. 227), whereas Cole believes presentations should only last 10 minutes before interrupting the webinar with an interactive session (Cole, 2010). It is difficult to make an exact assessment of the ideal duration of the presentations since this depends on the target group, the nature of the contents and what you want to achieve.

Besides ordinary questions and discussions, there is the option to use polls as an interactive component. In our experience from our three sessions, they can contribute to interaction, participant involvement and to launch subsequent discussions. In one of the sessions, we asked the participants which company in their opinions had the best project models and maturity, and based on the answers we received the dialogue started among the participants. Why did one group argue in favour of one thing and the other group quite the opposite? It worked really well. One advantage of Adobe Connect is that you can have the questions prepared in advance or phrase them ‘on the fly’. The screen image below shows the results of this poll.
Using polls also allows you to accommodate the so-called ‘lurkers’ (Heilesen, 2002) (Salmon, 2011, p. 244). Lurkers are people who are not active but only observe the action. In these situations, it is the facilitator’s job to include the participants in the best possible way, and a poll is a good tool where you ‘demand’ an opinion or an answer.

Adobe Connect offers another option, namely the already mentioned ‘breakout rooms’. Breakout rooms are virtual group rooms where you can place the participants. Here, small groups can discuss a specific problem or solve a group assignment for later plenary presentation, if relevant. Another option, which is also included in Adobe Connect, is a private chat. The participants can turn to whoever they want to communicate with in a private chat. The feature might be used to go behind the lecturer’s back but can also be used actively for small discussions. The features that you can quickly divide the participants into groups or that you can approach the participants individually are some of the new options offered by the technology.

Other ways of raising interactivity during a webinar:

- Consider using supplementary software that involves a participant pull (Groupware)
- Good, visual and inspiring slides that supplement the spoken word
- Phrase some good, involving and exciting questions (perhaps provocative)
- Use polls for starting and closing activities
- Always pay attention to the chatroom
- Presentations lasting no more than 15 minutes
- Change of speed
- Change the order of speech.

In one of our webinars, we wanted especially to include the participants and for this purpose we had designed a slide in advance for their input. The participants were to write their personal thoughts here. In order to do this technically, we had to upgrade all participants to the same rights as facilitator and instructor. But before we got to the slide concerned, one of the participants began to scroll through the slides. Of course this confused our lecturer. However, it is worth building on this experience because this was a session almost exclusively managed by the participants. It is something quite out of the ordinary to allow the participants to run your PowerPoint presentation and thereby decide the contents. Subsequently, the participants were downgraded to participant level again. Notes were taken by the instructor based on input from the participants, which worked fine.
Interactive webinars by Lars M Nielsen, CELM, VIA UC, 2013

Conclusive remarks

When designing and holding webinars you need to allow for several general factors. By way of summary, we have focused on especially three elements that are all important.

The three elements are:

- Process design (design of the activity)
- Technologies to be used
- Objective of the session, including participant learning objectives.

However, as already mentioned it is critical to use the target group as the point of departure – including their characteristics, wishes and needs. On this background, we can compose the following model:

The triangle is an illustration of the interaction between the three mutually dependent elements. For example, the technology element is a major factor for what can actually be done and therefore decisive to the process design and the objectives you can realistically define. You must always bear in mind the overall objective that you aim to achieve, and this must influence the process to be designed and the technology used, including which tools you want to use.
Aspects worth considering for future projects

Below are some questions intended to improve the quality of future webinar sessions.

- How best to describe the target group of the scheduled webinar and what do we know about it? (IT and academic/professional qualifications, the objective of their participation, their networks etc.)
- How to use the participants and their needs as our point of departure - and how to add value to them?
- What basic sparks or focus questions can we work from?
- How to establish an atmosphere of comfort and confidence for the participants – before and during the activity?
- How to make sure that the webinar lives up to the expectations of the participants)
- To what degree does the webinar satisfy participants seeking interaction?
- How to activate passive participants?
- How many participants do you expect – and how do you expect to manage the group?
- How to market the webinar and recruit the participants?
- What does the webinar manuscript look like – and what interaction points does this involve?
- Is there a clear distribution of roles and responsibilities among the instructors, lecturers and facilitators involved?
- What did you have in mind for the design of the physical space where facilitator and instructor are located?
- Did you define a precise and coherent presentation with an order of priority that allows you to skip points if time is running short?
- Did you define any pre-work – and what assignments, models, literature may the participants extract from the webinar?
- To what degree does your design satisfy the wish for diversity in the use of media and form?
- Which technological platforms would be most ideal to satisfy the objective defined for the participants and the activity? Perhaps you need to draw on more program packages for the actual webinar?
- When and how much will you use video?
- When and how much will you allow the participants to speak?
- Did you develop a technological back-up plan?
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