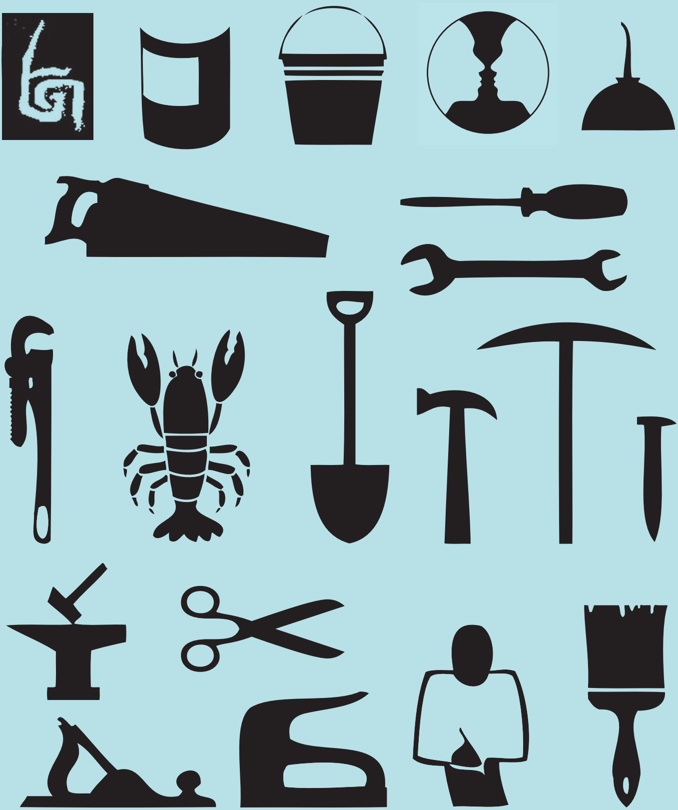
A Commons Leader's Vade Mecum

How to instantiate a Disciplinary Commons

Sally Fincher & Josh Tenenberg



A Commons Leader's Vade Mecum

(or, how to instantiate a Disciplinary Commons)

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The cover illustration includes symbols that reference the *Disciplinary Commons* project and the Sharing Practice project. The lobster symbolizes the influence that research on common resource governance has had on our work, paying homage to James Acheson's book *The Lobster Gangs of Maine*, one of the canons of this literature.

Contents

Foreword

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A *Disciplinary Commons* involves a group of educators from diverse institutions who teach within the same discipline meeting in monthly workshops throughout an academic year to share, reflect on, and document their teaching. We devised the *Disciplinary Commons* model, and ran the first instantiations in the academic year 2005/6, as described in Tenenberg & Fincher (2007). Since then we, and others, have run many further *Commons* in different disciplines and different circumstances. We have written about the model, and talked about its benefits on many occasions. What we haven't done, until now, is to bring together the underlying design rationale and practical guidance on how to run a *Commons*: this is that manual.

The Vade Mecum is made up of four inter-connected parts:

- THE BIG ILLUSTRATION: this is a single-page encapsulation of what makes a *Disciplinary Commons* and what makes a *Disciplinary Commons* work. From it you should get an idea of how the disparate parts fit together and an idea of how to work to achieve the goals of a *Disciplinary Commons*.
- THE LIFECYCLE: this is a narrative that takes you though each stage of a *Disciplinary Commons*, in order, so that you know what you have to do at each step, what's important and what may be safely disregarded, or left until later.

- WHAT'S IN A NAME?: a short essay describing why we called this sort of intervention a *Disciplinary Commons.* It isn't necessary to read this to run a *Disciplinary Commons*, but some may find the background and theoretical location of interest.
- KEY CONCEPTS: a *Disciplinary Commons* is built on many, interlocking ideas. You will encounter all these in the lifecycle story, at their most appropriate place. However, sometimes it is good to be able to turn to a specific concept as a reminder of its essence and importance. Key Concepts gives short definitions of crucial *Disciplinary Commons* concepts and rationale

You can find additional material on the *Disciplinary Commons* on the project website, at disciplinarycommons.org.

Sally Fincher, Josh Tenenberg
Friday Harbor, 3rd March 2011

The Lifecycle of a Disciplinary Commons

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All interventions start and end. The following table provides an outline of the major events in a *Commons*, with an indication of when, ideally, they occur. The principle tasks of a leader are to: obtain funding, recruit applicants, select participants, determine the sequence of topics for the year of meetings, plan each monthly meeting, support participants' construction and peer-review of their portfolios, and evaluate the *Commons.*

Way before (12 months – 6 months)	• Obtain funding • Recruit participants
Somewhat before (6 months – 2 months)	• Select participants • Determine sequence of topics
A little before (1 month – 1 week)	• Plan the first monthly meeting • Plan and facilitate each monthly meeting
During the year of monthly meetings	• Support participants' construction of their portfolios • Do formative evaluation • Do summative evaluation during last session
Afterlife (up to one year after)	• One year later meeting
Way after (2-3 years)	• Summative evaluation: longer term impact of participation • Retrospective narratives

1. CONCEPTION

A *Commons* is brought into being by a group of academics examining and documenting their teaching practice in a scholarly and disciplined fashion. After taking the decision to run a *Commons*, for a *Commons* leader two practical (and closely coupled) matters immediately follow: obtaining funding and recruiting participants.

Obtaining funding

There are two types of cost related to running a *Commons*. The first is about logistics; there must be a room and appropriate refreshments for each meeting. Most usually this involves booking (or hiring) rooms for a day and providing lunch. The second type of cost is money that allows participants to attend, which we call *enabling funds*. Unless unusually localised, everyone will require monies to cover travel to meetings: depending on institutional circumstance, some participants may need to be "bought out" from a course offering (or more). It is important to talk with your potential participant community to find out what they might need. In some circumstances, money may also be required for evaluation (possibly hiring a separate evaluator, or paying transcription costs). Our belief is that it is important that no one should pay to participate in a *Commons.* Equally no one should be paid to do so. Monetary transactions alter the nature of participation. As Barry Schwartz (2009) observes:

> Incentives don't just fail; they often backfire. Swiss economists Bruno Frey (University of Zurich) and Felix Oberholzer-Gee (Harvard Business School) have shown that when Swiss citizens are offered a substantial cash incentive for agreeing to have a toxic waste dump in their community, their willingness to accept the facility falls by half. Uri Gneezy (U.C. San Diego's Rady School of Management) and Aldo Rustichini (University of Minnesota) observed that when Israeli day-care centres fine parents who pick up their kids late, lateness increases. And James Heyman (University of St. Thomas) and Dan Ariely (Duke's Fuqua School of Business) showed that when people offer passers-by a token payment for help lifting a couch from a van; they are less likely to lend a hand than if they are offered nothing.
>
> What these studies show is that incentives tend to remove the moral dimension from decision-making. The day-care parents know they ought to arrive on time, but they come to view the fines as a fee for a service. Once a payoff enters the picture, the Swiss citizens and passersby ask, "What's in

> my best interest?" The question they ask themselves when money isn't part of the equation is quite different: "What are my responsibilities to my country and to other people?" Despite our abiding faith in incentives as a way to influence behaviour in a positive way, they consistently do the reverse.

In a comprehensive meta-analysis of over 100 studies on the effect of extrinsic rewards on intrinsic motivation, Deci, Koestner, and Ryan (1999) show that there is little controversy in the scientific record: extrinsic rewards reduce intrinsic motivation. "As predicted, engagement-contingent, completion-contingent, and performance-contingent rewards significantly undermined free-choice intrinsic motivation … as did all rewards, all tangible rewards, and all expected rewards. Engagement-contingent and completion-contingent rewards also significantly undermined self-reported interest … as did all tangible rewards and all expected rewards."

Not only do extrinsic motivators reduce intrinsic motivation, they often reduce the quality of what is produced. Theresa Amabile reports that extrinsic motivators (such as money) generally have a deleterious effect on creativity (Amabile 1998).

> Expertise and creative thinking are an individual's raw materials—his or her natural resources, if you will. But a third factor—motivation—determines what people will actually do. … My research has repeatedly demonstrated, however, that all forms of motivation do not have the same impact on creativity. … Obviously, the most common extrinsic motivator managers use is money, which doesn't necessarily stop people from being creative. But in many situations, it doesn't help either, especially when it leads people to feel that they are being bribed or controlled. … in our creativity research, my students, colleagues, and I have found so much evidence in favor of intrinsic motivation that we have articulated what we call the Intrinsic Motivation Principle of Creativity: people will be most creative when they feel motivated primarily by the interest, satisfaction, and challenge of the work itself—and not by external pressures.

However, there may be an unequal amount of money required to *enable* participation; what it takes to enable a teacher from a local high school to participate might be quite different from what it takes to enable participation by a professor from a university 100 miles away. A leader should take these differential needs into account, and provide each participant with resources to enable them to attend.

Recruiting participants

Any event begins with recruitment. As a central feature of a *Disciplinary Commons* is its focus in an academic discipline, participants should be recruited from a single disciplinary area. Since it is rare for any institution to have more than one or two individuals teaching the same module[1] on a regular basis, recruitment requires seeking participants from several institutions. Each participant must be teaching the module which they will share and document within the *Commons* in the current academic year; *Commons* reflection is neither retrospective not prospective.

There are other considerations that will depend on particular situation and context. *Commons* have been run which draw participants from a tight geographical area, to share and examine practice within that region. Some have drawn from markedly different types of institution, from high schools through to Universities to see how a subject is taught across the spectrum of developmental capability. Still others recruit from those teaching precisely the same module (introductory computer programming, or veterinary pathology for example) the only boundaries being national. Whether geographically dispersed or tightly local, all *Commons* that we have run share the characteristic that participants can meet, face to face, on a monthly basis throughout the academic year, and that the leader creates an environment in which they are enabled and motivated to do so.

[1] Throughout the text, we use the term *module* to refer to what is sometimes called *course* (in the U.S.), *paper* (in New Zealand), and undoubtedly other things in different countries. It signifies a single unit of study that normally takes a single academic term or semester to complete.

In practical terms, potential recruits need to be aware of your intent to run a *Commons*. This takes legwork. You may contact individuals directly or through a personal network. You may trawl the web to find who is teaching your subject in each institution. In some countries there are organisations explicitly charged with supporting teaching which may be engaged (Subject Centres of the UK Higher Education Academy, for example—now, 2011, of memory). Previously, leaders have had success posting to disciplinary-focussed mailing lists, and/or to lists dedicated to Heads or Chairs of departments in the disciplinary area.

Whatever the recruitment pool for your *Commons*, it is hard to underestimate the importance of making people aware of what you are doing, bridging disciplinary and disciplinary-education communities, drawing on your friends and acquaintances, and engaging institutional awareness—Deans and/or Heads of Department—so that when they are approached by a potential participant, the Head of Department will know what the potential participant is talking about.

It is important to start recruitment early. Participation in the *Commons* represents a significant commitment of time and effort, particularly if there is considerable travel required. So, in addition to mass emails, it is important to follow up individually.

Application

Potential participants should apply to be part of a *Commons*. Joining should not be thought of as just a matter of asking to attend. In this way, commitment can be signalled (if not fully negotiated) in advance. As a minimum, participants should commit to:

- attending all meetings,
- participating in processes of peer-review
- producing a public course portfolio of the module that is the subject of the *Commons*.

It is important to pay attention to scheduling, and make sure that the time and date of all meetings is set as close to the point of recruitment as possible, either before potential participants apply, or agreed with them soon after. This allows participants to negotiate calls on their time well in advance, arranging for colleagues to cover certain classes, or that the department will. At the very least there should be institutional awareness of their participation in a *Commons*. Some leaders require greater evidence of institutional support—for instance a letter from the Head of Department.

Acceptance

Most *Commons* leaders are comfortable with 10-15 participants. Some leaders are happy to take higher numbers; others like to focus on fewer. In the notification of acceptance, it is helpful to reiterate to the participants the commitments expected of them (as enumerated above).

2. Gestation

The work of a *Disciplinary Commons* is characterized by three interrelated components: participation, reflection, and reification. For a leader, **participation** requires that you structure opportunity for high-value exchange inside and outside meetings. The requirements of **reflection** mean crafting activities to elicit what is often tacit knowledge about each participant's course and practice. And the requirement of **reification** mean planning and supporting each participant to ensure their portfolio is completed, peer reviewed, and added to the Internet portfolio archive.

Participation

There are several aspects to participation (the aspect of a *Commons* that participants repeatedly report as being the most satisfactory.) The leader has to plan the order in which things are done. Each *Commons* session should be devoted to the examination of a specific aspect of participants' practice. By-and-large the session order should be the order in which the pieces will be assembled into the finished portfolio. Here, for example, is the order of the sessions used for several *Commons*.

October	Institutional Context & personal trajectory into teaching
November	Curricular Context of courses
December	Course Content
January	Instructional Design
February	Student Assessment
March	Evaluation
April	Delivery (including debrief of peer observation)
May	Complete "first draft" overview
June	Portfolio Presentations

(For a more thorough treatment of the contents of these *Commons*, what was covered in each session and how it fits together, please refer to the Big Illustration.)

Linking each session to a section of the portfolio—an artefact and its associated commentary—not only provides focus, but keeps participants grounded in their experiences as teachers within the discipline. They draw not on abstractions, theories, or speculation, but rather on their tacit expertise of what occurs on a daily basis in their own classrooms. The sequencing of the sessions, each on a different aspect of the module, provides direction and a linkage between meetings. And the repeated opportunities to create and share work reinforces commitment toward the enterprise and builds trust amongst the participants.

After each session, we recommend giving homework (preparation for the next meeting) and train reading. Homework usually consists of an artefact/annotation pair, as just discussed. The term "train reading" stems from the UK *Commons*, where participants, drawn from around the UK, often had lengthy train rides from their homes to the monthly meeting location. Train reading comprises a paper or chapter appropriate to the subject of the session just completed, during which participants have intimately considered their own practice in this area. This may stimulate them to see their practice afresh, and allows a bridge between sessions, whether they read it on the way home from this session or on the way in to the next one.

In addition to attending monthly meetings, each participant also undertakes a peer observation in another participant's classroom, and is likewise observed teaching in their own classroom by one of the other participants. Key aspects of teaching occur only in the dynamic interaction between teacher and students within the classroom. Gaining insight into this interaction is difficult if not impossible to achieve other than by direct observation. The peer observation follows a 3-part form (Chism 2007). The observer and observed first meet prior to the observation session to discuss the learning objectives for the session, what will be occurring, and what if anything the observer should focus on. During the class session, the observer focuses on what is actually happening in the classroom during the session. After the session, the pair reconstructs and debriefs what happened during the class session, with each member of the pair discussing their perspective on the session and how it met the stated learning objectives. You need to make guidelines/documentation available for observer-pairs to access, and some *Commons* leaders like to support peer observation with exercises during the "normal" sessions (such as the compilation and exchange of "declarative maps" (Kinchin 2008)).

Reflection

Participation alone does not make a *Commons.* The course portfolio and participation together provide a structure in which participants can interrogate their own practice in an incremental, systematic, and shared manner.

One of the assumptions built in to the design of the *Commons* is that teachers may not have explicit and ready access to much of the knowledge that they bring to bear on their practice; it is tacit, buried in the enactment of the practice itself. But there are traces of this tacit knowledge embedded within the artefacts that teachers create—such things as syllabi, handouts, assignments, exams, presentations. The reflection that the *Commons* facilitates is mediated by these artefacts, some of which are included in the portfolio along with text that describes their significance.

In a review of the literature on expertise and its implications for education, Felton (2007) notes that experts' self-reports often do not reflect their actual work processes. Rather, he suggests that it is important to use more authentic elicitative methods—including the use of "structured knowledge elicitation techniques"—to uncover their authentic practices. Having participants select artefacts that represent their own practice, commenting on their significance within the context of their course and curriculum, and using these artefact/annotation pairs as a structured method for collective discussion and reflection allows for participants' expertise to be made visible to one another.

First-line reflection is carried out between the monthly meetings. It is something that each participant does privately and then brings to the meetings for examination and discussion with their peers. Month by month there is a steady accretion of material, a deepening of the reflective practice, a discipline of reflection. Within the *Commons* meetings, participants share their reflections and see their practice reflected back to them in others' work in a form of reflection that Donald Schön calls "hall of mirrors" (Schön 1990). This is a powerful collective practice, not led by an external "expert" but grown from within the *Commons*: it can lead to high levels of trust.

Reification

"Reification" literally means "making an idea into a thing". In *Commons* terms it means participants capturing important features of their teaching and documenting it in a course portfolio (Hutchings 1998). *Commons* portfolios are heavily influenced by the work of Dan Bernstein (Bernstien et al. 2006) who uses portfolios to expose the normally tacit work of teachers in designing and realising educational activities. The emphasis that a portfolio mandates, ensuring that the final representation remains close to day-to-day practice, is an important aim of a *Commons* where it supports and captures the shared reflective work in a way that an abstracted representation, such as a Journal paper, cannot. The advantage that *Commons* portfolios have over other collections is in number, in there being several within the same disciplinary area, rather than scattered over many subjects.

Commons portfolios have a mandated form. They have six sections: context, content, instructional design, delivery, assessment & evaluation. (Although some *Commons* leaders decide to include additional pieces, such as "Teaching Philosophy"). Each section consists of an artefact from the module under consideration which illuminates, encapsulates, or represents that section. ("Artefact" is an unusual term with regard to teaching and teaching practice. Explicitly making the link to notions of archaeological evidence can be useful for participants finding it hard to get their head round what "artefact" might mean to them). So, for example, the Content section may contain artefacts such as a syllabus, or outline of lectures, or module description (these would not be exciting or unusual choices). Each artefact is accompanied by a commentary from the participant, which discusses the artefact and its meaning and significance with respect to the course as a whole, drawing on whatever broader material they please.

Leaders have to structure a *Commons* to favour the production of portfolio pieces. In this way, when participants come to put their portfolio together they are "parked on a slope", and have material to hand. This is achieved by structuring participants' work at three levels: private, protected and public.

The *private* level is for themselves alone, a reflective journal, blog or diary, perhaps. Participants may draw upon material in here for more finished products, or it may remain a purely personal document. Whatever its final use, the value of contemporary notes and sustained reflection is very high.

The *public* level is the final piece, the completed portfolio, made available to the world on the Internet portfolio archive.

In between these lies the *protected* level. Here, *Commons* participants share draft pieces with each other, at least at each stage of peer review. It is useful to have these collected together in a central repository, perhaps on a password-protected webpage. In that way, everyone can access materials that they are meant to be reviewing without having to beg from the individual concerned. A side-effect of this kind of mechanism is that the quantity of material that every participant has contributed is visible to everyone else. This provides group awareness and the mild sanction of embarrassment for non-contributors. It pays to pay attention to the technology chosen. It is best if participants have write-access to their own space: if they have to send material to a leader for them to post it, this adds a burdensome extra step which may in itself be enough to stifle production.

Given the incremental construction of the portfolio, there is the danger that participants view their portfolios not as a unified whole but as a disconnected set of pieces. It is important throughout the *Commons*, but especially in the later sessions when participants are finalizing their portfolios, that you emphasize the importance of their providing a narrative that links the portfolio parts together into a coherent whole.

3. *AWAY WE GO! FACILITATING THE MONTHLY MEETINGS*

Each *Commons* session, although regular, is not long in itself. Allowing for travelling time, most *Commons*, start at 11.00 and end 3 to 4 hours later. This can include a meal, or a lengthy break with snacks. As some participants can travel a long way, it can be a good idea to provide coffee from 10.30 (or earlier) to provide a foregathering and "soft start".

During the first and last sessions, a guiding principle is "everyone's voice in the room". For the first session, it ensures that everyone has had a chance to speak, and equally that everyone has presented themselves to the group. For the last session, everyone talks through their portfolio (or gives a reflection on their portfolio or the process of constructing it, or reflects on the *Commons* itself and their participation). In this way the group creates a shared sense of opening and closure. Depending on the number of participants, you may have to extend the duration of the first and last sessions, to give everyone an adequate time allowance.

A *Commons* can encourage considerable disclosure, fostered by a high degree of trust between participants (Fincher & Tenenberg 2007). Such an environment may be nurtured by following a second principle of "safety first" and moving from low-risk, public material in early sessions such as syllabi through to higher-risk, material that is rarely made public in later sessions, such as feedback to students on their assessments. So the subject matter for the first session should be particularly easy and non-threatening, perhaps asking participants to speak about "How I got into teaching" and "What it's like to teach in my department."

Three things to get done at the start

THINK AHEAD

Although a series of year-long meetings may make it seem that you have a lot of time, it is important to plan "fixed points" well ahead. Given the variation in people's circumstances and timetables (some may be teaching in first semester, some second; some may teach only on Wednesdays etc.) you should set up the pairings for peer observation as soon as practical. In that way, any impossible clashes can be sorted out early, and people who finish teaching before (or do not start until after) December will still get the benefit. It is important both that everyone observes and that everyone is observed. It is better if peer observations are not mutual, not for any unkind reasons, but just to spread the experience of different contexts as widely as possible throughout the participants.

Emphasise responsibility

From the very first session, it is important to emphasise the collection of "naturally occurring" materials to form a pool from which they can select their portfolio artefacts, since participants won't notice this until it's too late. This may include encouraging participants to think about recording their lectures/teaching interventions, to save examples of student work, and (where appropriate) to obtain ethical/IRB approval to use grades or to include student work.

Talk about commitment

As everyone comes together in the first session, establish (re-iterate) that the nature of a *Commons* requires commitment to attend. On the other hand, it is unrealistic to expect everyone to make every meeting. Some people will have clashes with some dates from the outset, and illness and emergency are always with us. However, if participants miss more than two sessions, they lose touch, it's hard for them to catch up, and the rest of the group moves on without them. So establish the rule "three strikes and you're out": if you miss three meetings, you are automatically out of the *Commons*. This helps to avoid the sentiment "why should I maintain commitment to the *Commons* if others are not doing so". It is important that the sanction is known to everyone, in advance, and that its application is automatic and non-negotiable.

It's important to do this clearly, and up-front so it doesn't become personal when any given individual is faced with the issue. Participants accept the commitment to collegiality, recognize that commitment is contingent on the ongoing commitment of others, and pay each other the courtesy of regular attendance.

A Typical Session

Every *Commons* leader will have their own approach and materials, their own "bag of tricks" for establishing the pattern of interactions during the monthly meetings. Broadly, each meeting should contain a variety of *types* of exercise/experience (there are some resources on disciplinarycommons.org). Here is the outline of a typical session:

Sixth Commons: March 2008 *Draft*

feedback
what is
a portfolio

11.00-11.20	Portfolio Review feedback I	pairs (see allocation)
11.20-11.40	Portfolio Review feedback II	
11.40-12.15	Grading (did it work for them): • Who do we do it for (how important is it for us, for the course, for the students, for the department, for employers)? • How do we decide which work to grade (of all the pieces we may set)? • How do we do it (machine, me, TAs) • How do we do it (bell curve, norm referenced, criterion referenced)?	triads jef leads
12.15-12.30	Feedback from that	plenary: jef
12.30-13.15	Lunch	
13.15-13.30	What feedback *mechanisms* do you use? ("happiness forms"? mandated questionnaires? etc.)	plenary, collate on ohp. saf
13.30-13.50	Feedback (did it work for us): • How do we solicit feedback? (Appropriate, timely etc.) • What do we do about it?	small group & plenary call-out. saf
13.50-14.10	QA (did it work for the institution): • What do they want? • When do they want it? • What do they do with it?	small group & pairs & plenary call out. jef
14.10-14.40	Write a "recipe" for the piece of evaluation you like the best, or which works best – or both. (can be anything from today). Try and separate out what you need from what you do ("ingredients" and "method")	individual jef introduce
14.40-15.00 Wrap & Homework	• We'll be doing two more rounds of evaluation on each others' work in two different styles, looking for different things. (April's homework) • We've been asked to use the HCI workshop (day before the BCSHCI conference in Liverpool—August 31st) to present/showcase/disseminate the HCI Commons. Do we have stuff to say? How might we structure this? • Train Reading	plenary. saf

Evaluation. Us bringing our values to bear on them (Bob Broad exercise). Them expressing their value of us.

As a leader, it's very well worth printing the session outline and taking it with you. Not only does this mean that you can be sure you cover everything you intend, but you can annotate with queries, problems and issues, as here. Note the "whole a.m!" annotation, and the subsequent adjustments "one session, 20 mins"

There are three main types of activity, and one subsidiary one:

Small group

During the "body" of the *Commons*, participants share their work with each other, usually in triads. This is allows exposure to a variety of experience. As a leader you need to do three things in respect of this kind of work

1. Keep time, calling out "change to the next person now" at appropriate points (participants will become too immersed in discussion to notice—or may be very bored with someone's story and relieved that there is an external pressure to move on).
2. Make sure the triads are different (or mostly different) at each session, so participants are exposed to every represented practice.
3. Hover and eavesdrop (if you can do this without losing track of time or threatening the mutual disclosure). This clues you in to emergent issues and themes which you can call on for plenary reflection.

Plenary sessions

Here the work/reflections of the group are shared. Mostly these should be kept short and sweet as it's easy for participants to become passive, especially as group size grows. They're good for "warm up", reflecting on the Train Readings, and gathering material from small group sessions (draw on your eavesdropping).

Exercises

As well as sharing, you will want to incorporate some exercises that generate material. Mostly these are undertaken individually and then shared. You should keep a copy of all material generated and make it available to all (in a "protected" space). Either take a high-quality digital photo of everything, or gather it in, scan it, and return the originals. If you choose the latter path, get participants to put their names and addresses on an envelope for easy return—finding all their mailing addresses is a chore you don't want to be saddled with. Also, as they put their own material in their own envelope (**don't** let them seal it) you won't have to work out whose work is whose.

Presentations

There is a place for presentations, "a time for telling" (Schwartz & Bransford 1998), particularly after participants have been prepared through discussion and contrast of their different portfolio increments. However, it is important to keep in mind that you are not there to be the expert in the disciplinary area. The participants are expert in their own practice and they will expect you to know the *Commons*/portfolio process. Your role and your enactment of expertise is in the facilitative process of guiding participants in individual and collective reflection on their own practice and taken-for-granted assumptions, not because you know about their work.

This can be difficult. As educators we are very used to being the content expert, to being the person at the front of the room doing the talking. But it is vital to the success of the endeavour that you abrogate this role. It is especially important—even if asked—that you **do not** contribute your own experience; as the leader, you carry authority and if you start saying "*Well, what we do at Poppleton is …*" then participants will listen to you, and both their own work and that of the collective will suffer.

As things progress: incorporating Peer Review

After a few sessions, you will have established a rhythm and expectation of experience within sessions, a set of routines (Leinhardt & Greeno 1986) within which you and the participants comfortably operate. Mostly you should maintain this throughout. However, as the *Commons* progresses and participants start to build their portfolios, you will want to introduce sessions where they peer-review each others' work. This is best done pair-wise, not in triads, and substitutes for one of the "small group" sessions. There are some tricky things to cope with in this process.

Having material

The first problem is making sure participants have material to be reviewed. It's nasty having people sitting empty-handed when others are working. There is no simple formula for this, some people are very resistant to producing stuff on time, but do your best and make it as clear as possible what is expected, reminding them of their commitment when they accepted the invitation to join the *Commons*.

Having criteria

People can't peer review "in the dark", they need guidelines and criteria, they need to know what they are looking for, and they need to know what *good* means in a portfolio context. Three sets of criteria have been used to date (available from disciplinarycommons.org) and all have worked well at least once (and not so well on other occasions, of course). At the very worst they provide discussion fodder.

When?

Peer review sessions have been incorporated into sessions 6-8 (the last three before portfolio completion). Whilst the first of these can be shaky, confidence increases, and so should your time allocation. Knowing that a particular audience will be looking at their work provides both focus for their portfolio and incentive to complete their work. By the last peer-review session people have a lot to say and 45 minutes per participant is not too long.

How?

Participants should reviews others' work as homework between sessions, and then give their feedback face to face within a session. In that way slacking and free-riding is made evident, and so communally discouraged.

WHO REVIEWS?

You should allocate peer-review pairs. This means that you can avoid short-chains of buddies ("*You say that I've done it and I'll say that you have"*) and ensures wide exposure of work. So, each participant should have their work reviewed by three other participants over the course of three sessions/months. There is an additional complication to this allocation, which is that you have to ensure that, for each session, peer review pairings are symmetrical across the cohort so that someone giving feedback in the first peer review session is then free to receive feedback in the second. This is irritating, a pain, and easily wrecked if someone "no shows". So some leaders avoid this pain by allocating buddy-pairs. Of course, if one doesn't turn up, two sets of review are scuppered.

Facilitating around and between the meetings

As well as being "in the room", you have to keep things moving "between times". As we have seen, this involves:

Making sure homework and train reading is set

Allocating peer observation and peer review pairs

Collecting/collating material generated in session

You should make all these available on a web page, some publicly, some in a protected (*Commons* only) space as soon as possible after each session. The web page becomes an expression and representation of the identity of a *Commons* as it grows, and participants turn to it as a first resource. Also, non-*Commons* participants sometimes visit, so it's important to keep the externally-facing pages up to date, too: (see examples at disciplinarycommons.org) a "stuck" webpage looks shabby.

Additionally, for your own work, you will need to think about:

Debriefing

It's important to get feedback. If you are leading as a pair or small group, or if you have the luxury of an observer, an "extra pair of eyes" make sure you sit down and work though what happened during the session that just completed, what could have gone better, and what to alter for the next session, immediately after participants have left. Working in order through the session outline provides an elicitative structure for this immediate reflection. If you are leading on your own, find a trusted colleague to phone as soon as possible afterwards. (Sally and Josh are always happy to act in this capacity: just ask).

Your own portfolio

Whilst it isn't a requirement, most *Commons* leaders construct a portfolio of their *Commons*. So, you should adopt *Commons* practices of gathering artefacts, reflecting on material, getting peer review and constructing a narrative for your portfolio.

4. *At the End*

You may be the first leader who will have every participant's completed portfolio presented at the last session. We salute you. Like as not, though, you'll only have a couple and a handful of promises and IOUs. You will have to chase—as hard or soft as you like—to get the rest. Most of us give up after about three months. If they haven't done it by the start of the new academic year, it's very unlikely ever to happen.

5. *Afterlife*

Following the year of monthly meetings, participants frequently ask for the opportunity to meet again. This is not uncommon for this type of immersive experience; some participants will have made professional (sometime personal) friendships that persist beyond the life of the intervention. There is no requirement to re-form a *Commons*, but some have, and there are some models for this.

One Year Later

Several *Commons* have come back for a session a year after their final meeting. Most often this has taken a similar form to the "normal" sessions, but with a focus on change in their practice, especially with regard to what they have adopted from others' work. You can see some resulting work at http://www.cs.kent.ac.uk/~saf/dc/meetings.html (bottom of the page). There is little additional work to organising a "One Year Later" session than a normal *Commons* session.

A Retrospective Commons

On one occasion, further funding was obtained to bring *Commoners* back together for a more extended exploration (five and two years later, respectively). This event ran from lunchtime to lunchtime, with overnight accommodation provided. Participants were asked to bring three artefacts that represented their current teaching practice. On the first afternoon, participants were paired to interview each other about their current teaching, providing commentary for their artefacts (these were audio recorded, professionally transcribed and both audio recordings and transcripts returned to participants for their reflection). They were then asked to look at the portfolios they had generated at the end of their *Commons* participation; for some this was the first time they had returned to them. They then interviewed each other (in different pairs) about their teaching practice "then and now". These interviews were similarly recorded and transcribed. The following morning, participants made a digital narrative of their "then and now" stories (which can be seen on the ITP *Commons* and HCI *Commons* pages respectively). Participants especially valued the overnight stay: dinner had a party atmosphere. Additionally, participants positively commented on learning the techniques and software for creating digital narratives, which many had not encountered. If you want to run a Retrospective *Commons*, as well as funding issues, there is considerable technical infrastructure needed (sufficient audio recorders, computers and licensed software for all) as well as staff experienced in the software to assist. However, the rewards—the long-term evaluation opportunity and the reflective artefacts—are substantial.

6. Evaluation

Program evaluation involves collecting data to determine the extent to which the program has met or is meeting its objectives (Boulmetis & Dutwin 2005). To state this informally, we try to answer the questions "is it working?" (for *formative* evaluation that takes place while the program is ongoing), and "did it work?" (for *summative* evaluation at program's end). We designed this project around the following objectives: 1) to engage participants in critical reflection on their own teaching, 2) to engage participants in the peer review of each other's teaching, and 3) to share the resulting insights and innovations with the broader computing education community. The first two objectives will largely be evidenced through patterns of interaction during the *Commons* sessions, reflective comments within the portfolios, and changes to teaching practice. The third objective is evidenced through the public forms in which the participants disseminate their *Commons* work. This includes not only the portfolios themselves, but presentations and publications related to their participation and reflection.

Lightweight formative evaluation should be conducted on a regular basis. Methods may include 1) note taking during the sessions and retrospective notes made shortly after each session by *Commons* leaders, 2) monthly debriefings between a *Commons* leader and one of the *Commons* participants, 3) solicitations at one or two points during the year for brief, anonymous feedback from participants about what is working and what is not working, 4) discussion *between* leaders of different (but parallel) *Commons* on how they believe things are going. Some of these formative evaluations can be evidenced by reflections on the amount and nature of participant interaction and examination of the portfolios-in-progress. For summative assessment, we have developed (in collaboration with the Office of Educational Evaluation at the University of Washington) a set of lightweight pre- and post-participation survey instruments that may be administered electronically. We also developed a survey that we administered by paper and pencil during the final *Commons* session. These are freely available for use and adaptation via the project website (www.disciplinarycommons.org).

What's in a Name?

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We did not name the *Disciplinary Commons* by accident, and deliberately intend the name to convey a collection of ideas in one shorthand expression. First, we outline what we mean by each term separately.

DISCIPLINARY

The primary, and straightforwardly obvious, meaning we wish to convey is that this work is located in subject matter, in a shared academic discipline. So a Computer Science *Disciplinary Commons* would not be attractive to, indeed would be mystifying to, a History academic. The location of the work within disciplinary confines also distinguishes it from generic "faculty development" events which might focus on approaches ("problem-based learning" or "classroom assessment techniques" for example) that are expected to attract staff from every subject area, across an institution.

Just after that, we would like to hint at the notion of the discipline of regular work. At its best, participation in a Commons means a set of new habits, attending a series of meetings and undertaking the ongoing collection and processing of material into a portfolio, work eased by being in social setting. As one participant characterised it,

> I have had an opportunity to review some of the literature on course portfolios and to begin creating a portfolio for my CS1 course this past semester ... I didn't have enough time to devote to the portfolio or the discipline to consistently work on it throughout the semester. Being able to get feedback and suggestions from other faculty, as well as the discipline imposed from being part of a larger group that meets regularly, are two of the main reasons I'm interested in the project

Also taking meaning from "discipline" as a verb, we want the term to indicate that there is a special way to work here, that the practice(s) within a *Disciplinary Commons* have to be considered and deliberate. Evidence (artefacts) must be selected for purposeful reasons and presented with a rationale as to their value. A *Disciplinary Commons* necessarily entails disciplined practices of principled, systematic and scholarly enquiry.

Last, and very much least as far as we are concerned, is the idea of discipline as sanction. The knowledge that if you don't attend, and/or don't fulfil your promise of commitment to the other Commoners, then you will be excluded.

In this way, "discipline" is for us a powerful pun drawing on both noun and verb forms, because it not only denotes a subject area but also suggests a process.

Commons

> All efforts to organize collective action, whether by an external ruler, an entrepreneur, or a set of principals who wish to gain collective benefits, must address a common set of problems. These have to do with coping with free riding, solving commitment problems, arranging for the supply of new institutions, and monitoring individual compliance with sets of rules (Ostrom 1990, p27)

As with "discipline" our choice of the term "commons" is neither accidental nor casual. We have borrowed a number of principles from recent research on the commons to inform our design of the *Disciplinary Commons*. For we view both the enterprise—a group of educators meeting regularly over an extended period of time—as well as the product—the collection of course portfolios—as commons. But commons are subject to both comedy and tragedy, and can bring benefit or ruin to their participants. In this section, we provide a brief overview of research on the commons, and discuss how several of the theoretical principles have been operationalized in our project design.

What are commons?

The term commons has been used to mean a number of different things to different people. Several of these uses describe a commons as a *place* in which people come together to discuss issues of shared concern. "These uses of the term ... are rooted in one of the older 'classical' meanings of the 'commons' — a town hall, a town square, or other public meeting place." (Hess 2000)

It is this sense of place that Shulman describes in his forward to the book *The Advancement of Learning, Building the Teaching Commons*.

> "[n]o setting represents the intellectual and resonant richness of the place [the University of Chicago] more than a space on the first floor of Judd Hall, the Judd Commons rooms. In those rooms we drank coffee or tea each morning and each afternoon. Faculty members and students gathered together and exchanged ideas and gossip, tough criticisms, and good yarns" (p.v).

In the body of this book, Huber and Hutchings describe a similar conception of the *teaching commons* as a metaphorical place of sharing and mutual support among teachers (Huber & Hutchings 2005).

> In this teaching commons, as we call it, communities of educators committed to pedagogical inquiry and innovation come together to exchange ideas about teaching and learning, and use them to meet the challenges of educating students for personal, professional, and civic life in the twenty-first century

They view this place as harmonious and nurturing, an idyll for teachers wishing to examine and share their own practice, perhaps drawing on the physical utopia imagined by Gerrard Winstanley when he called upon the diggers to make the earth "a common treasury for all" (Winstanley 1649).

We do not call on these physical metaphors. Our use of the term commons comes from a different source. We borrow instead from the literature on common resource governance that has emerged over the last two decades (Ostrom 1990; Ostrom et al. 1994; Dietz et al. 2002), brought to recent prominence by the award of the 2009 Nobel Prize in Economic Science to Elinor Ostrom (2009), a political economist who directs the *Workshop on Political Theory and Policy Analysis* at Indiana University.

The commons that Ostrom and others have investigated are shared common resources such as groundwater basins, forests, and fisheries. These all contain what are called *common pool resources* (CPR's), goods that are both subtractible (one person's use subtracts from that which is available to another) and from which it is infeasible to exclude other resource users (Ostrom & Ostrom 1977). Thus, a fishery is often a common pool resource because one person's harvesting of fish removes those fish from the stock available, and it is difficult to exclude others from fishing in the area. Within this literature, the term *commons* has also been used to describe *public goods* such as intellectual property (Boyle 2003), the electromagnetic spectrum (Benkler 2002), and the earth's atmosphere (Buck 1998). Like CPR's, it is difficult to exclude others from the consumption of public goods, but unlike CPR;s, public goods are nonsubtractible: users can jointly use or consume the resource. The figure below (adapted from Ostrom & Ostrom 1977) shows how common pool resources are distinguished from other sorts of goods.

		Consumption	
		Subtractive	**Joint Use**
Exclusion	**Feasible**	**Private Goods:** bread, shoes, cars, haircuts, books	**Toll Goods:** theatres, libraries, telephone services, toll roads
	Infeasible	**Common Pool Resources:** water from the ground, fish from the sea, crude oil	**Public Goods:** peace & security, pavements, weather forecasts

Ostrom (and other scholars) have investigated the conditions under which commons flourish (or die) and have identified social behaviours that regulate common pool resources: behaviours that are intimately adapted to local circumstance and condition, but which share patterns with other similar situations. These patterns have been described as resolving a series of "dilemmas".

Social Dilemmas

All commons give rise to social dilemmas (also known as collective action problems), which involve a conflict between self-interest and collective benefit. As Kollock remarks,

> "[i]n a social dilemma, individually reasonable behaviour leads to a situation in which everyone is worse off" (1998, p183).

There are two kinds of social dilemmas; one associated with common pool resources (CPR) and the other with public goods.

Appropriation Dilemmas

The social dilemma associated with CPRs stems from their subtractibility and finiteness, coupled with the temptation by users to overharvest. The most well-known example is from Garret Hardin's 1968 article in *Science*, in which he asserts that commons have inevitably tragic consequences (Hardin 1968). He uses an example of a group of herdsmen who all share a common grazing land. Each herdsman has an incentive to keep adding additional animals to their herd, since the cost of grazing (in the reduction of grass consumed) is shared among all the herdsmen, whilst the benefit of the additional animal accrues only to the individual who owns it.

> "Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush" (p. 1244).

There are many current and historical examples of commons that have collapsed or experienced significant degradation, the virtual collapse of the global harvest of seals and whales (Roberts

2007), deforestation in many parts of the globe (Ostrom & Nagendra 2006), and overgrazing of western rangeland in the US (Freilich et al. 2003) such as led to the dustbowl in the United States in the 1930's. What is particularly insidious about appropriation dilemmas is that the incentive to overharvest is increased by the fear that if one does not harvest as much as possible there will soon be none left to harvest, since others (who are difficult to exclude from the commons) are pursuing the same "rational" strategy. Runs on banks are also a result of this human impulse.

Provisioning Dilemmas

A second sort of commons dilemma is associated with provisioning public goods. This dilemma arises because public goods are available to all, so everyone receives their benefit, but there is little incentive for an individual to pay the cost of providing the good. Receiving public goods without paying a fair share of their cost is called *free riding* (Ostrom 1990) or *social loafing* (Karau & Williams 1995).

Examples of free riding occur with public television in the USA which many watch, but only a few contribute money (Schwer & Daneshvary 1995); taxes, where everyone enjoys the services tax money buys, but many try to avoid paying taxes themselves (Levi 1988); and student groupwork in universities, where some students prefer to receive high marks for the group's final product without sufficiently contributing to its production (Tenenberg 2008). Provisioning dilemmas are insidious because not only is there the initial temptation to free ride, but that temptation is increased when others are observed to be free riding. Levi (1988) sums this up succinctly: "No one wants to be a sucker." When the burden of providing public goods is not fairly shared by the beneficiaries, few are willing to continue to contribute (Marwell & Ames 1979).

In the *Disciplinary Commons*, there are several provisioning dilemmas. Participants may want to attend meetings without doing the homework required to make these meetings meaningful. They may want to miss meetings at will, under the assumption that the group as a whole will carry on without them. They may not want to peer review the work of others, while still benefitting from the peer review they receive. And they may not want to complete their portfolio, while at the same time drawing on the portfolios of other *Commoners* who do contribute to the *Commons* archive. We do not suggest that *Commons* participants are deviant, but rather that there are "naturally" occurring provisioning dilemmas within all commons that can provide incentives to free ride if not addressed.

Solving Social Dilemmas

As well as identifying dilemmas, commons researchers have identified ways in which these may be successfully addressed.

Communities from all parts of the world, from the forestlands of the Swiss Alps and rural Japan (Ostrom 1990), to the dry regions of Spain (Maas & Anderson 1986), the lobster fisheries of Maine (Acheson 1988), and the Salmon fisheries of the Northwestern US (Trosper 2002) have demonstrated that commons can be sustainably governed over long periods of time. There are a number of principles and approaches to solving social dilemmas that researchers have extracted from an examination of these successes, as well as from experimental research in the behavioural laboratory. Kollock (1998) divides these approaches into three kinds, motivational, strategic, and structural.

Motivational solutions address the intrinsic motivation that individuals have to promote group interests over their own self interest. These include group efforts toward shaping a shared identity and the development of shared norms of behaviour and belief (Kollock 1998) among members of a resource-sharing community. Badges, slogans, and flags can all represent and shape this sense of shared identity and values. An additional motivational solution is the making of public commitments, which in and of itself increases the likelihood of cooperative behaviour among group members (Ostrom 1994).

Strategic solutions refer to the actions that group members take so as to influence the actions of others in the group. One such strategy (made famous by Axelrod in his experiments using the Prisoners Dilemma game (1984)) is to respond to punishment from others with punishment in return, and to meet reward with reward. Far from turning the other cheek (a strategy which permits continual exploitation) a strategy of reciprocation elicits cooperation from others by exacting a cost for their pursuing a selfish strategy and providing a reward for their pursuing a cooperative one. The regular customer in a restaurant who does not tip for good service may find less congenial service on a subsequent visit.

In the case of exchanges with others with whom there is no shared history, reputation serves as a proxy for this lack of history. Reputation encapsulates the shared interactional history of a particular person with all others. Thus, the seller of an item on eBay may be deterred from withholding shipment after receiving payment, not because of lost sales to *this* customer, but due to the possibility of a lower reputational rating that might affect all future sales.

Structural solutions involve collective efforts to change "the rules of the game" (North 1990), that is the policies that group members follow to manage their shared resource. Rules, whether tacitly understood or formally codified, specify what individuals may, must, or must not do, in what circumstances, and with what consequences for non-compliance (Ostrom 2005). Rules increase the predictability of others' behaviour by providing external, enforced disincentives for privileging selfish motives over the collective interest (North 1990). Researchers are increasingly recognizing the importance of human-designed rules in structuring human affairs (Hodgson 2006, North 1990, Ostrom 2005).

Structural solutions highlight a number of important features of rule-bound behaviour. First, successful resource-sharing groups monitor individual compliance with the rules, for instance about what can be harvested when, and in what quantities (Ostrom, 1990). An example of successful monitoring comes from the perennially dry Valencia region of Spain where scarce water sources flow through canals from nearby rivers. Farmers there use the *turno system*, whereby each farm can take as much water as it needs, but only during its turn. Monitoring (one farmer of another) is extremely high, since it is low-cost—you only need to monitor just as your turn is approaching—and distributed between all the farmers who take water from the canal. (Maas & Anderson, 1986).

Secondly, sanctions (and the threat of sanctions) are important in ensuring compliance with agreed rules. Human-designed sanctions are generally applied in a graduated fashion (i.e. light touch for first infraction, heavier penalties as infractions increase (Ostrom 1990)). For example, McKean (1989) describes the sanctioning rules used by villages holding forestland in common in rural Japan. Monitoring is carried out by appointed "detectives", who are hired third parties in some villages, while in others the role rotates among the male population. Infrequent violations are handled in a straightforward manner, with small cash payments or donations of sake from the violator to the detective. Sanctions are graduated as the offense increases in quantity or frequency. Not only have the use of sanctions been repeatedly observed in field settings (Acheson 1988, Maas and Anderson 1986, Ostrom et al. 1994), their use results in better resource allocation amongst participants in behavioural lab settings (Ostrom et al. 1994).

Thirdly, structural solutions require repeated interaction. In one-shot, zero-sum games such as the Prisoner's Dilemma (Rapoport & Chammah 1965) there is often considerable exploitation by one or both players (Thaler 1991). But in repeated interactions with the same players, individuals can begin to trust that others will cooperate.

> "What makes it possible for cooperation to emerge is the fact that the players might meet again. This possibility means that the choice made today not only determines the outcome of this move, but can also influence the later choices of the players. The future can therefore cast a shadow back upon the present and thereby affect the current strategic situation" (Axelrod 1984).

Unlike the teaching commons imagined by Shulman, Huber, and Hutchings, the natural resource commons that people rely on daily are as subject to despoliation as to successful sustained management. All commons present challenges for governance, since they are subject to social dilemmas that pit individual against collective interests. By recognizing the structural nature of these dilemmas and past approaches at solving them, the *Disciplinary Commons* includes specific elements for addressing the dilemmas that might arise.

Both Disciplinary and Commons

We designed the *Disciplinary Commons* model with these ideas in our minds, and the model incorporates specific practices to address Ostrom's "common problems"

How we cope with free riding

Bringing a group together in any circumstance brings with it the possibility for unequal contribution and for free riding. We work to mitigate this in the *Disciplinary Commons* model by building in practices which bias towards reciprocity and contingent cooperation.

First, we provide a rich environment of fellow educators teaching the same disciplinary topic who meet on an ongoing basis. Participation in these meetings provides benefit to justify an individual's contribution to the commons. The repeatability of *Disciplinary Commons* (many monthly meetings) and the graduated commitment of starting with low risk topics (safety-first) and light homeworks at the outset allow participants to slowly build trust before tackling higher risk topics and later portfolio-building that requires larger time expenditures.

How we address commitment problems

We work to build group identity and shared norms. At the outset, participants make a public commitment. From the application onwards, the commitments associated with participation must be clear. Some leaders doubly-emphasise this, and require applicants to confirm they recognise their commitments at the time of acceptance into the *Commons*. As the year progresses, participants begin to identify with the group as a whole. They become members of their own *Commons*.

How we monitor individual compliance

There are sanctions associated with participation in a *Disciplinary Commons*. The "three missed sessions and you are out" rule is recognised by all, and participants "in the room" sometimes wistfully observe that a member has missed a third meeting and that they will not be seeing them again. "Three meetings" seems to be about the right number, as it provides sufficient flexibility for the inevitable emergency or conflict, but also makes it clear that participation requires commitment throughout an academic year.

In a *Disciplinary Commons*, we aim to devolve monitoring to participants, to those who are most interested in the outcomes. Each month, "homework" is brought in and shared, most often in pairs or triads, so that monitoring of who is—and who is not—doing their work is mutual and low-cost. This is particularly important during the later sessions when participants are completing and peer reviewing their draft portfolios. Participants are assigned to peer review pairs and review each others' materials *before* coming to the session, then giving feedback face-to-face within the room. In this way it is obvious to all who is not prepared, who has not done their work, and it is particularly painful for the person who is expecting feedback. If feedback were to be exchanged outside of the sessions, it would be a much easier commitment to shirk.

In addition, the protected area of the website where participants collect their artefacts and post their ongoing work provides a low-cost monitoring mechanism. It is important that this is a communal space and that everyone sees everything, so empty folders are visible to all. If spaces are individual (or each person has their own view of a communal space) then this benefit is lost.

Finally, *Commons* leaders monitor attendance, participation in peer observations, peer review, and the creation of portfolios, sometimes cajoling and reminding particular participants to carry out their commitments.

Where mechanisms fail

The point of failure for most *Disciplinary Commons* is in the production of complete portfolios and their placement in the central collection. By the end of a *Commons*, individuals have received the benefit of coming to the meetings and have little incentive to contribute to the resource. There is no further activity to monitor, and no group sanction for this form of free riding. It's a point of fragility of the model which we have, so far, not managed to successfully address.

Key Concepts: a concise reminder of important Disciplinary Commons concepts

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ARTEFACT

Each portfolio is anchored in the selection of artefacts from a module the participants are teaching in their institution and reflecting on in the *Commons*. It is important also that participants rehearse their artefact choice, by bringing them into meetings. In this way they mediate between the home environments and the *Commons*. It is easy for participants to discuss their own objects, and thereby expose the context in which they "live" to others—much easier than without.

COMMITMENT

No one pays to join a *Commons*, but no-one is paid. The commitment is enabled, not incentivised. What enables one individual to attend may be different from another. It's not a case of dividing monies equally, but appropriately.

Participants apply (rather than "sign up"), they need to commit at time of acceptance to attend, do the work, and deliver a portfolio.

COST

There is some. Meeting rooms, lunch, travel. You have to find some funds. See also commitment, above.

DISCIPLINE

It seems to be important that a *Commons* leader is known to work in the same discipline/area as the participants. That they share "vulgar competence" (Garfinkel & Sacks 1970). We think this is the case because *Commons* with leaders outwith of a disciplinary focus have failed to recruit—that is, when leaders known within one field have tried to lead a *Commons* within another (although this might be co-incidence).

Using disciplinary metaphors for the work of the *Commons* (cycles of reflection, software lifecycle) allows participants easier understanding of what is going on.

Evaluation

Plan early and plan often. The last meeting is too late to decide you need a pre-*Commons* survey of participants.

Free Riding

No team wants a "passenger", but some participants, by nature or circumstance, will take advantage. So you have to build in mechanisms to prevent this. *Commons* mechanisms include graduated sanctions ("three strikes and you're out") and having a common display of artefacts (in a shared webspace)—it's easier to shirk a private exchange than having to come up with material that everyone can see.

Hall of mirrors

A *Commons* leader is not the expert: participants are all expert in their own practice. So a *Commons* is not led from the front, neither "follow me" nor "do it like I do" but by facilitating mutual reflection. (Schön 1990).

Human Subjects approval

For you with regard to the Commoners, and for them with regard to course/student artefacts. Do this early.

Location

You can rotate meetings between Commoners' institutions, you can have a single-site that you use for every meeting (whether a *Commons* institution or hired), you can use multiple non-*Commons* sites. All these patterns have been used. All have different implications for a *Commons* culture. All seem to work.

Mirror portfolio sections in meetings

That is devote one meeting to each of: Context, Content, Instructional Design, Assessment, Evaluation, Delivery

Participation

We take it as obvious, and we take it for granted that meetings are not optional. And yet we are often asked if you can run a *Commons* remotely. We believe face-to-face meetings are essential. Partly because of the rich nature of the interactions partly because of the commitment to the common endeavour that turning up represents. How many meetings are necessary, and whether some can be remote is, as yet, unexplored territory.

Private, protected, public

This was originally a disciplinary metaphor referring to who has access to what things, but we have retained it as general *Commons* parlance to describe an important continuum of representation to different possible audiences. Private representations are created by the participant for their own use, a private diary or notes. Protected representations are explicitly designed for sharing with other *Commoners* at the monthly meetings. And public representations are placed in a location that is publicly accessible by anyone with an Internet connection. Technology can matter here—it's best if the leader isn't a bottleneck to people putting material in the "protected" space.

Reciprocal obligation

You need to build in mechanisms so that this becomes an expectation and a social norm (small groups sharing practice in meetings, peer review pairs, peer observation pairs). A first-line free-rider prevention mechanism

Recruitment

There are two underlying issues with regard to recruitment:

1. Who do you target? *Commoners* are all "experts by experience." (and so probably not newbies, not people teaching for the first time—although they may be teaching this specific subject for the first time). It doesn't matter if you get the Usual Suspects (don't worry if you do). You should try and ensure a wider awareness in their home

institution (Department Heads need to know), but you might require a larger institutional commitment depending on how much, and what kind, of enabling is required (e.g. you have to buy them out of a course).

2. What do you say? Participants need to know what they are signing up for. Because a *Commons* is not a usual form, it is important to be very clear in recruitment literature what it involves, and that it's about teaching (not research, nor collecting resources, nor developing materials).

Reflection

Commons reflection is specific to the current, coeval course instantiation. *Commons* reflection is neither retrospective nor prospective. You have to work not to let discussion get generalised, abstract and opinionated: always bring it back to *this* course, *this* instantiation.

Reification

Why it matters they work on a portfolio. Participants, by and large, do not see value in the portfolio. They like to come together; they get immediate and high-value benefit in coming to the meetings. Constructing a portfolio has low-value for them and is a burden. But if they do not do the work outside of meetings that contribute to this, the collection and selection of artefacts and the reflective work to make their significance explicit, then the high-value participation will not happen. The act of documentation is important for the larger community as well: if reflection remains in the mind alone, there is no progress of the larger disciplinary community. As Mary Huber, senior scholar at the Carnegie Foundation for the Advancement of Teaching lamented about the winner of a prestigious national teaching award: "what he himself had learned from teaching remained his own craft knowledge: under examined, under documented, and subject to loss … Aside from his syllabi and fading memories, he had no real record of what happened in those award winning courses" (Huber 2002)

Why common portfolio structure matters. Partly it is easier to create a portfolio (indeed, anything) if there is a known structure to work to. For *Commons*, however, there is a larger reason, which is these portfolios are created collegially and presented together. Because they are all in a focussed subject area, they form a common resource that is likely to be consulted together. The structure allows comparison, allows a reader a quick "way in".

Why artefact/commentary matters A portfolio is not a "paper" and the different structure allows different things—things appropriate to teaching—to be expressed. The selection of artefacts gives free choice in representing the important aspects of specific practice, whatever the teacher believes to be important and/or characteristic of their approach. The associated commentary allows explanation of why this aspect is important, a broader contextualisation of the concrete, situated practice.

Safety first

Over the course of a *Commons*, ensure that participants share easy, low-risk material early ("How I got into teaching", "What it's like to teach in my Department") and more challenging high-trust material later (assessment strategies, institutional constraints, how I believe x should be taught).

Scheduling

Set up all meeting dates and times in advance of recruitment so participants may juggle institutional and *Commons* commitments. This certainty enables potential participants to negotiate time within their department. Some constrained circumstances won't allow for this, for instance where participants have exceptionally heavy and continuous teaching loads. In those circumstances you have to recruit very much in advance and negotiate a schedule of meetings. You may have to meet on weekends.

Situation

A portfolio is not abstract: it's about *this* course, *this* instantiation. It explores and documents specific practice.

Timetabling

You need to ascertain early on when each participant is actively teaching over the life of *Commons*. It helps to make this available in the protected space as a visible shared artefact to enhance mutual accountability.

Train reading

Train reading follows and continues the theme of the session, it does not presage next. Whether they read it on the away train or coming in next time does not matter, it still acts as a bridge. It's a nice thing if participants suggest readings; you can include them as additional to your own, or instead of. It has become a tradition that participants select the final reading(s).

What is held in common?

The subject matter for a *Commons* varies. *Commons* have been held which are about local context, about practice within a region. They have also been centred on modules, everyone teaching exactly the same material. There seems to be a difference here if these are "gateway" courses (something foundational that everyone has to do—like introductory computer programming) or advanced, optional material (for example Human Computer Interaction) but the difference is in the nature of the *Commons*, not the interest or enthusiasm of the participants. *Commons* have also been proposed (although not to our knowledge run) on interdisciplinary lines, where what is held in common is similarly unusual ways of working within an institutional context.

A Note on the Logo

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The *Disciplinary Commons* logo references two influences.

The first is a reference to the schematic carvings that Frank Lloyd Wright found on the land on which he subsequently built his Arizonan home, *Taliesin West*. The particular glyph represents two joined hands—palm to palm—fingers curled together. We wanted our *Commons* to suggest a similar supportive mutuality.

The second influence is the logo of the Creative Commons organisation. Offering work under a Creative Commons license does not mean giving up copyright, and provides a nice mechanism for establishing authorship and attribution for teaching materials. We are supporters of the creative commons and wanted to give a "tip of the hat" to them in our logo design.

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