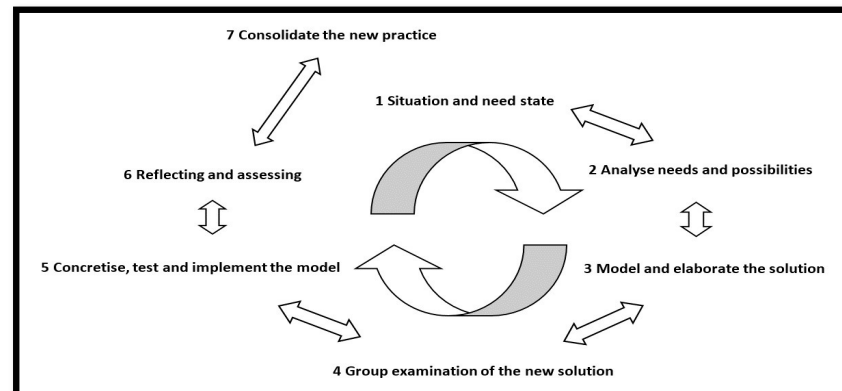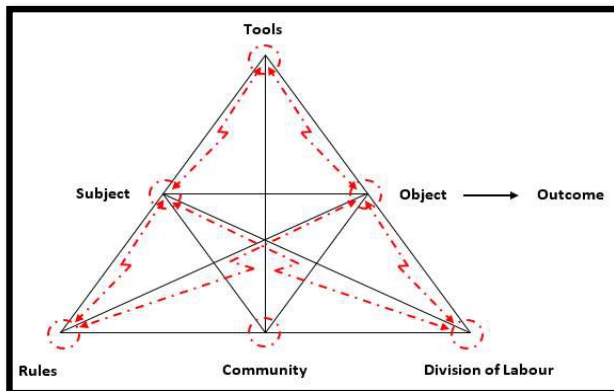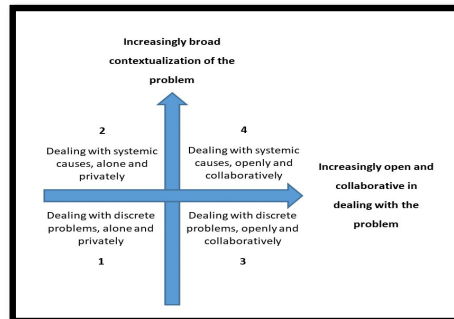**Change Laboratory for boundary learning in military higher education**

Participant notes and workbook

You can make notes on hard copy, on interactive pdf, or through our shared whiteboard

Increasingly broad contextualization of the problem

| 2 Dealing with systemic causes, alone and privately | 4 Dealing with systemic causes, openly and collaboratively |

Increasingly open and collaborative in dealing with the problem

| Dealing with discrete problems, alone and privately 1 | Dealing with discrete problems, openly and collaboratively 3 |

Tools

Subject — Object → Outcome

Rules — Community — Division of Labour

7 Consolidate the new practice

1 Situation and need state

6 Reflecting and assessing

2 Analyse needs and possibilities

5 Concretise, test and implement the model

3 Model and elaborate the solution

4 Group examination of the new solution

If you have any questions please contact: Philip Moffitt, L2-018 Denison Block, ext 2254, e: philip.moffitt@hts.army.mod.uk

Change Laboratory for boundary learning in military higher education
Preparing for Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs) - around 15 minutes
Disturbance diary

What?	In every activity problems arise, and by exposing these and aggravating them we can improve practice, rather than expecting them to go away by themselves.

So what?	A useful tool for tracking these problems is a "disturbance diary" which is an individual record of problems and difficulties that we can explore together. They won't be collected in, but they may help us to track our thoughts before our next session.

Now what?	There is an example below; please add your own below it and overleaf, overleaf and think of two or three every week that we could use as impetus for change in that session. When we meet for our Change Laboratory sessions, we'll explore them together.

Topic	Disturbance, problem, difficulty…	Available means of going forward…	Ideas for mirror material and for elimination…
Contacting defence partners using defence IT	Last week I needed to contact the Security Engineers at MOD Main Building to discuss a project. I was on a civil nuclear project doing a vulnerability assessment and I was stuck with something. I remembered doing something similar at MOD MB and wanted a copy quickly; it would have suited what I was analysing	The HTS terminal was working but was being used for JPA. The other rooms were locked as it was outside normal hours. The project was due in the next morning so I had to phone a colleague who then emailed MB for me and then sent it to me on WhatsApp so that I could use it (against policy not to mention a ridiculous waste of time).	Why can't we openly contact people using our own devices, take us all to the cloud with E2EE (let's interview the hosts of the attachment and ask what they think). Nobody seems to know why the "computer says no" for policy. I did my attachment under bigger security concerns, so why use HTS at all? Let's go to the cloud, and have a suite of HTS and normal terminals that anybody can use, where we can do admin and contact people NORMALLY!!!

Change Laboratory for boundary learning in military higher education
Preparing for Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs) - around 15 minutes
Please maintain this diary regularly and let Phil Moffitt know if you need any more blank sheets

Topic	Disturbance, problem, difficulty…	Available means of going forward…	Ideas for mirror material and for elimination…

Change Laboratory for boundary learning in military higher education
Preparing for Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs) - around 15 minutes
Please maintain this diary regularly and let Phil Moffitt know if you need any more blank sheets

Topic	Disturbance, problem, difficulty…	Available means of going forward…	Ideas for mirror material and for elimination…

Change Laboratory for boundary learning in military higher education
During Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs)
Definitions (please note that these won't all emerge early on)

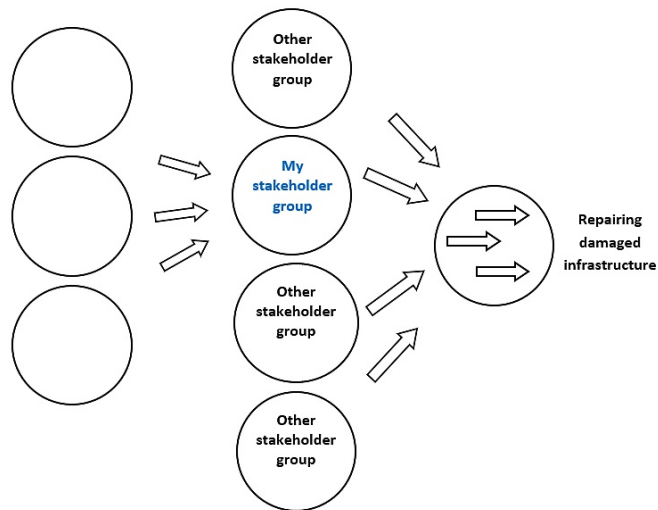|	
Boundary learning	*Learning which takes place with experts outside PEW / RSME organizational boundaries*
Disturbance	
Activity	
Action	
Operation	
Subject	
Object	
Artefact	
Rules	
Division of labour	
Community	
Contradictions	
Add others over…	

Change Laboratory for boundary learning in military higher education
During Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs)
More definitions (please note that these won't all emerge early on)

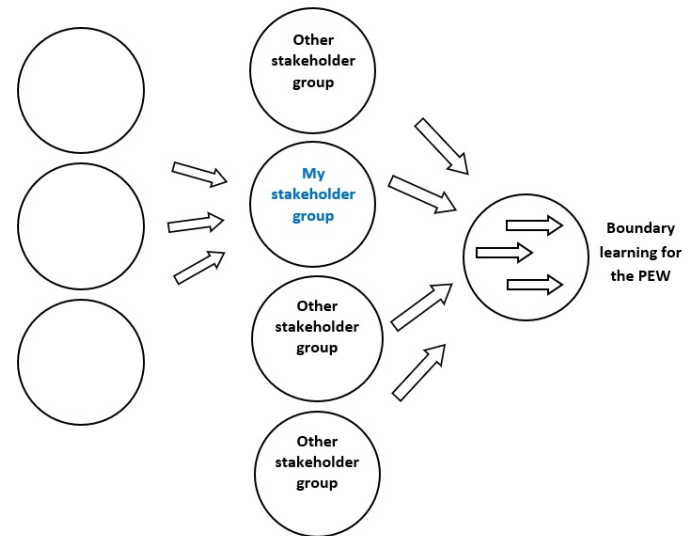|	

Change Laboratory for boundary learning in military higher education
During Session 1 (2021 cohort), Session 2 (Tech Trg Branch Lecs) and Session 3 (SMIs and QMSIs)
Modelling our current production

An incomplete model of production for battle damaged infra at a HN WTW; complete three sub-elements for your own central element:

Other stakeholder group

My stakeholder group

Other stakeholder group

Other stakeholder group

Repairing damaged infrastructure

A model of production for boundary learning; complete *at least* three sub-elements which affect your own central element:

Other stakeholder group

My stakeholder group

Other stakeholder group

Other stakeholder group

Boundary learning for the PEW

Change Laboratory for boundary learning in military higher education
Preparation for Session 4 - around 15 minutes
Exercise - Differences between operations, actions and activity

Activity (oriented to motive)

Action (oriented to individual goal)   Action (oriented to individual goal)

Operation (oriented to
subconscious condition)   Operation (oriented to
subconscious condition)   Operation (oriented to
subconscious condition)   Operation (oriented to
subconscious condition)
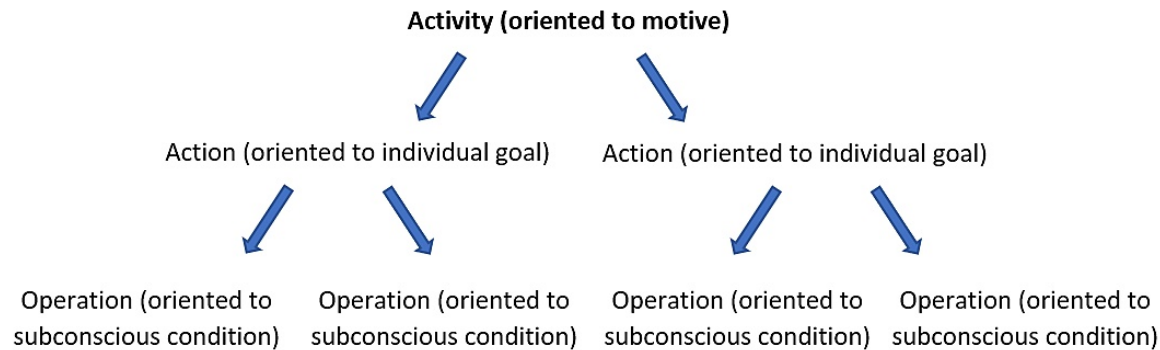
Think of 3 *operations* contributing to the *action* of completing a linear intersection on operations, AT or MATT 5:

Think of 3 *actions* (not including the above MATT 5 example) leading to the *activity* of an STRE deploying on a TIRR to South Sudan:

Image of activity taken from Kaptelinin, V., & Nardi, B. (2012). Basic Concepts and Principles of Activity. In Activity Theory in HCI: Fundamentals and Reflections (pp. 11–37). San Rafael: Morgan & Claypool Publishers. Image of WTW value chain taken from author's own work.

Points to raise in CL session:

Change Laboratory for boundary learning in military higher education
During Session 4
Exercise - Planning the collaborative journey
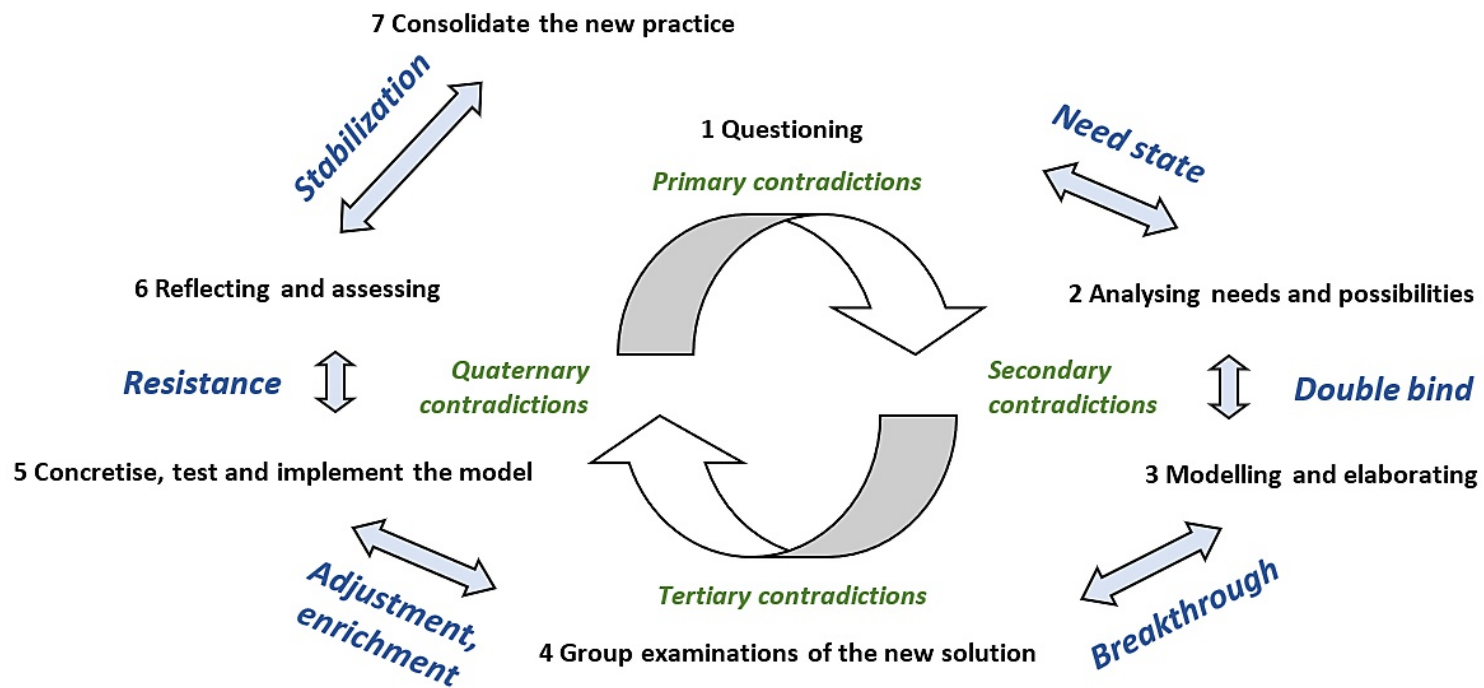
7 Consolidate the new practice

Stabilization

1 Questioning

Primary contradictions

Need state

6 Reflecting and assessing

2 Analysing needs and possibilities

Resistance

Quaternary contradictions

Secondary contradictions

Double bind

5 Concretise, test and implement the model

3 Modelling and elaborating

Adjustment, enrichment

Tertiary contradictions

Breakthrough

4 Group examinations of the new solution

Change Laboratory for boundary learning in military higher education
Preparing for Session 5 - around 15 minutes
Exercise - from activity to historical analyses

What?
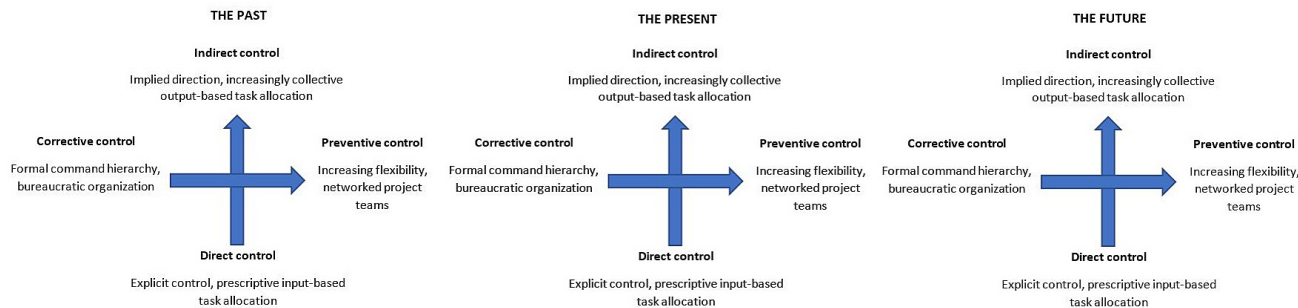
We currently undertake TEL activity as boundary learning with experts outside the PEW, which doesn't comply with DSAT. We agree that it better prepares us for our future vocational challenges. We ought to better understand its effect on our learning activity. To do so, the key question for now is - *how did we get here?*

So what?

We need to think about putting a boundary around our current activity, to capture these issues in a manageable way, informed by what we've done in the past. If it's too simple we can't expose the issues, and if it's too complex we may not add anything of value! To tackle these issues, we need to review the history of our activity, again asking - *how did we get here?*

Now what?

In our groups, we can think about how to "bound" our TEL practice in boundary learning. Draft a "right and left of arc" for the people and other "bits" of activity through time (past, present and future). Mark your assessment of the PEW's position on the following diagrams, thinking of what makes you think that way. We'll then discuss our responses to - *how did we get here?*

THE PAST

Indirect control
Implied direction, increasingly collective output-based task allocation

Corrective control
Formal command hierarchy, bureaucratic organization

Preventive control
Increasing flexibility, networked project teams

Direct control
Explicit control, prescriptive input-based task allocation

THE PRESENT

Indirect control
Implied direction, increasingly collective output-based task allocation

Corrective control
Formal command hierarchy, bureaucratic organization

Preventive control
Increasing flexibility, networked project teams

Direct control
Explicit control, prescriptive input-based task allocation

THE FUTURE

Indirect control
Implied direction, increasingly collective output-based task allocation

Corrective control
Formal command hierarchy, bureaucratic organization

Preventive control
Increasing flexibility, networked project teams

Direct control
Explicit control, prescriptive input-based task allocation

Change Laboratory for boundary learning in military higher education
Preparing for Session 5 - around 15 minutes
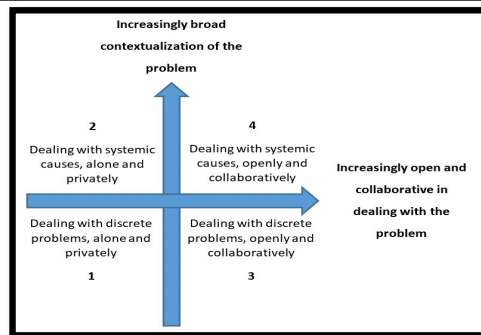**Exercise - from activity to historical analyses**

What?

Understanding our history can enable us to better understand how we got to this point. Before we analyse historical evolution as a group, we ought to have the opportunity to each understand (individually) our own historical perceptions of how activity has changed and developed.

So what?

Remember when we do this, the object is "Accessing knowledge and meaning at the time and point of need". In consideration of that object, we should all begin to think about changes that we've experienced, which we can then discuss as a group during the sessions. While we do so, we can think about where we (as PEW) *currently* sit on the four-field model below left.

Now what?

As individuals, we'll complete an exercise about problems in activity and their historical evolution. Can you begin by selecting the nearest organization type to PEW on the four-field diagram, then making some brief notes on the timeline; what has changed since you joined the Corps, for example? Spend 20 minutes on the exercises below and we'll construct the matrix overleaf together.

2017	2018	2019	2020	2021	2022	Now

Observations of change in the activity

Change Laboratory for boundary learning in military higher education
During Session 5
Exercise - from activity to historical analyses

My one-line problem definition: _____

Time	Object > outcome	Subject	Artefacts/tools	Community	Division of labour	Rules	Central problems
Now							
2022							
2021							
2020							
2019							
2018							
2017							
Prior							

Change Laboratory for boundary learning in military higher education
Preparing for Session 6 - around 15 minutes
Exercise - from historical analyses to actual-empirical analyses
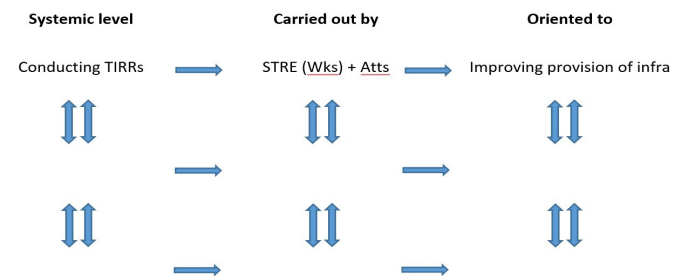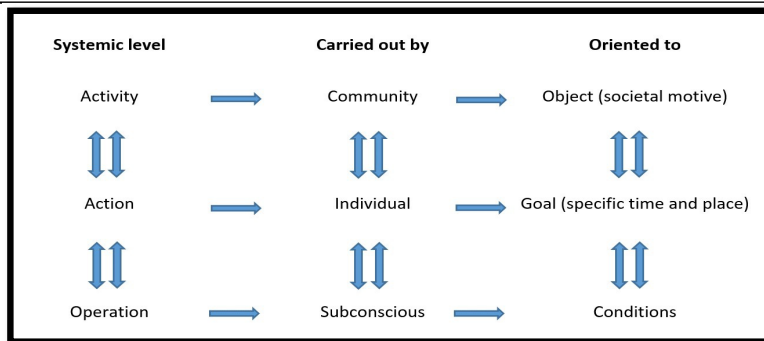
What?	We need to closely agree on what we consider as activities, actions and operations. In everyday language, they probably have various meanings which we can clarify in conversation. In CHAT and CL, however, they mean very specific things and have specific consequences for us. We need to discuss how our *individual actions* align with the activity that we're analysing!

So what?	We need to get these things clear to save time and effort in our future sessions. They may initially seem trivial, but they are much more than a "chicken and egg" relationship. Before we use these terms and their implications in the Change Laboratory sessions, it makes sense to discuss and clarify them with a familiar task.

Now what?	In our groups, we'll complete an exercise about activities, action and operations. Below is a template and an activity that we've all previously completed; a tactical infrastructure reconnaissance. Can you identify one example of each missing term? Spend at most 30 minutes on it, then we'll complete the one overleaf together for our boundary learning.

Systemic level	Carried out by	Oriented to
Activity	Community	Object (societal motive)
Action	Individual	Goal (specific time and place)
Operation	Subconscious	Conditions

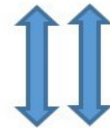| Systemic level	Carried out by	Oriented to
Conducting TIRRs	STRE (Wks) + Atts	Improving provision of infra

Change Laboratory for boundary learning in military higher education
During Session 6
Exercise - from historical analyses to actual-empirical analyses

Systemic level   Carried out by   Oriented to

Change Laboratory for boundary learning in military higher education
During Session 6
Exercise - actual-empirical analyses and contradictions

What?	There is a difference between the real substance of contradictions (which cannot be observed) and the way that they are expressed in day to day life (which can be observed). For an engineering analogy, testing a water carriage pack could show FRC of 3 ppm, when we originally dosed to 5 ppm, but it doesn't show the biological contaminants or chloramination in the water.
So what?	We need to really work to identify the contradictions, rather than the way they are shown to us, to be effective in organizational change. To practice, we'll conduct an exercise to see whether, through observing and discussing observable phenomena, we can get to the underlying contradictions that are driving those phenomena.
Now what?	In our groups we'll discuss these themes, and before we do have a listen to these accounts of a situation which included boundary learning. You may need to pause and replay parts, which is why we're doing it before we discuss them together. Click the link below and make notes on any "clues" to contradictions then we'll explore them together.

Click this link to access the AV material, then make your personal notes below on the underlying contradictions:

Note any dilemmas, disturbances, tensions, etc which you can identify in the AV media, and which might be manifestations of contradictions:

Change Laboratory for boundary learning in military higher education
During Session 6
Exercise - contradictions, use value and exchange value

What?	The contradictions in our activity can be traced back to primary contradictions of "use value versus exchange value". As an example we'll all understand, let's say that you have found a great way to solve a problem on a syndicated project. Do you "use" the knowledge or "exchange" it for something, perhaps for favour with another syndicate or for marks with the lecturer?

So what?	We need to do some exercises to tell the difference between use and exchange, so that we can expose and aggravate them. When we discuss Karl Marx, Adam Smith and things like economics and contradictions, you may think they don't apply to public services and TEL for military engineers. They actually do, so it's worth knowing about them.

Now what?	Think about four SERE things we're familiar with: shelter, location, water, food. They mean different things to us. How could their use value and exchange value be analysed? In what time and place would each have extreme use value or extreme exchange value? Can you complete the following, including adding your own example of something (anything) else to discuss:

Value in use		Shelter		Value in exchange
	Force protection, bothies, COLPRO	Shelter	Change of ownership of Kitchener Barracks	
		Water		
		Food		
	Becoming a MAPRIC to assist teams delivering MATTs	Location	Becoming an ML to improve promotion prospects	
	Improving TEL at the PEW	Phil's TEL	Leaving to work in TEL / FM / engineering elsewhere	
		(Yours)		

Change Laboratory for boundary learning in military higher education
Preparing for Session 7 - around 15 minutes
Exercise - springboards for new activity

What?	Modelling the new activity is often cited as the most difficult part of our Change Laboratory journey. Fortunately we have a few techniques to help us out, and one of them involves identifying cultural and historical "springboards".

So what?	A springboard is a trigger for change, rather than a solution itself. It could be an image, an SOP, a story, some previous experiences, but something that sits in the past and provides us a clue, a hint or a starter of how we might create our new activity.

Now what?	In our small groups let's think of springboards. We may need to discuss rough drafts as a group, which then generate more ideas which is absolutely fine. It's also fine if it takes us more than one session. Remember that they're only rough ideas.

The Kajaki Dam is in the north of Helmand Province. It was commenced in the 1950s, with the hydroelectric plant started in the 1970s by US Aid. In partial completion, it was abandoned in 1979 during the Russian invasion. Only two if its three turbine units have ever been operational, with frequently only one working. In 2008 a third 220-tonne turbine was delivered during a high-intensity operation, which was hailed by NATO as a significant victory. **The turbine remains non-operational**.

In no more than 10 minutes, compile an outline DEEPLIST and SWOT assessment (overleaf) of why it isn't fitted. Can you identify any potential for using these to aggravate our underlying contradictions? What can we learn from them? Can you think of any springboards to inform our boundary crossing TEL, something to take forward for UK contingency operations, or infrastructure engineering generally?

Example springboards	Add your ideas either at this wiki or in the box below, and we'll discuss them as a group

Change Laboratory for boundary learning in military higher education
Preparing for Session 7 - around 15 minutes
Exercise - springboards for new activity

DEEPLIST factors for new activity	
Demographic	
Environmental	
Economic	
Political	
Legislative	
Informational	
Sociological	
Technological	

Internal	Strength	Weakness

Ideally matching

External	Opportunity	Threat

Conversion process

Change Laboratory for boundary learning in military higher education
During Session 7
Exercise - modelling new activity and exposing contradictions
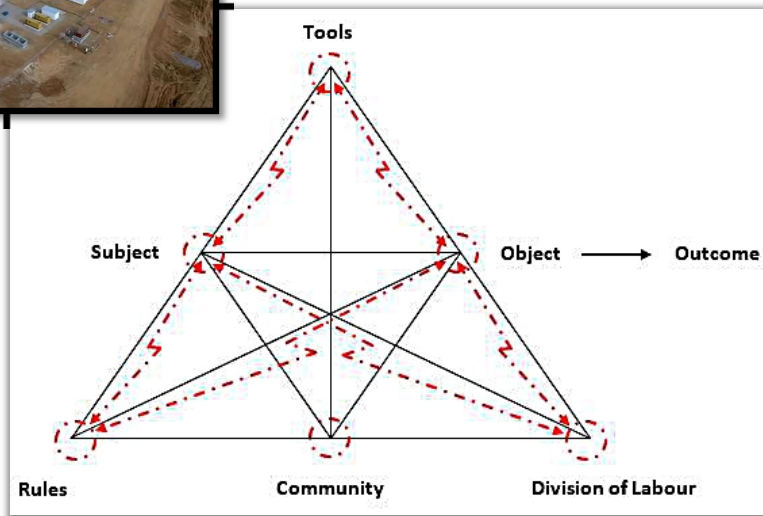
Subject (the activity's participants):
Subjects:

Object (the reason for the activity):
Object:

Tools or artefacts (tech and cognitive means of reaching the outcome):
Tools or artefacts:

Rules (the activity's formal and informal regulations):
Rules:

Community (a wider population with a vested interest):
Community:

Division of labour (allocation of activity's expertise and power):
Division of labour:

Points to raise:

Change Laboratory for boundary learning in military higher education
During Session 7
Exercise - Redesigning a military ZPD

What?

The ZPD is a term used in learning; the Zone of Proximal Development. It can define the difference between what we can learn alone and what we can learn with others. In our specific case, "others" likely includes our managers, lecturers, reservists, hosts on CNI sites, medics, logisticians, NGOs, asset managers and peers.

So what?

We've examined "artefacts and tools" and their roles in mediating subjects with their objects. In our activity we are purposefully intervening in the redesign of boundary learning. We ought to assess how our activity is holding up to its object, how its holding up to the artefacts, and make any adjustments that are necessary to these or other elements.

Now what?

Firstly, we need to assess how we're comparing with our previous model of activity, almost a health-check in case we've drifted or we have different opinions which haven't been captured. When we've done so, we'll review our entire activity now that we've had a trial period with it, and we'll think particularly about the contradictions, including between new and old and between different activities.
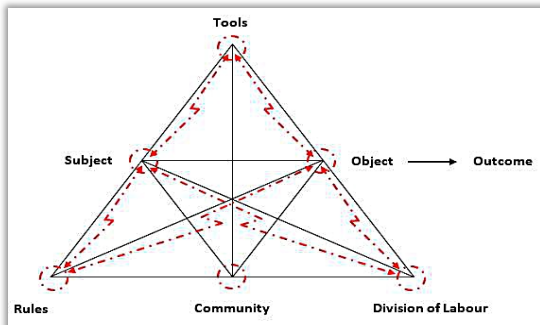
When we've assessed where we are on the model (there is a larger one overleaf), we need to compile answers to the following:
• How do our previous proposals and ideas contribute to the new activity? Is there anything we proposed that has been missed or ignored?
• Are there any "residual disturbances" between our own work and the broader collaborative activity, and if so then how do they relate to the *object?*
• Are there any "residual disturbances" between our own work and the broader collaborative activity, and if so then how do they relate to the *artefacts?*
• From our trial of the new activity, is there anything that you expected to change which hasn't?
• From our trial of the new activity, is there anything that you did not expect to change which has?

Change Laboratory for boundary learning in military higher education
Preparation for Session 8 - around 15 minutes
Exercise - Examining the redesigned activity

Mediating artefacts
Compliant artefacts: PCs (**Defence Intranet only**), large screens (**Defence Intranet only**), physical and simulated infrastructure (**no ICS / SCADA capability**)
Non-compliant artefacts: BYOD mobile devices, civilian **CNI risk analysis** techniques, **case studies and lessons identified from non-defence experts, our own contact registers, wikis and blogs, WhatsApp etc**

Central activity: Learning to mitigate increasingly contingent and unexpected risks to infrastructure at the time and location of need

Production

Consumption

Exchange   **Distribution**

Subject
Military infrastructure engineers, logisticians and medics

Object
Accessing **credible** infrastructure knowledge **where and when we need it**

Outcome
Collaborative **working and learning** with experts, **including non-defence experts**, to **understand** risks to **infrastructure**

Rules
Formal rules: IT Security policies, defence learning policies, **Informal rules: local practice and norms, dynamic risk assessments**, traditions and customs, interoperability restrictions, **psychological contracts**

Community
Tri-service colleagues, **NGOs, OGDs, non-defence experts**, learning support, CIS support, military IT security officers, School **military and civil service** strategists, families, friends

Division of Labour
Horizontal decision making with expertise to specialists for **technical credibility, vertical decision making to generalists for efficiency of** effort and resources

Notes on other related activities:

Old divisions of labour and new tools:

Old rules and new tools:

Old [insert others yourself] and new [insert others yourself]

Change Laboratory for boundary learning in military higher education
During Session 8
Exercise - From modelling to examining; the redesigned activity and its contradictions

Mediating artefacts
Compliant artefacts: PCs (**Defence Intranet only**), large screens (**Defence Intranet only**), physical and simulated infrastructure (**no ICS / SCADA capability**)
Non-compliant artefacts: **BYOD** mobile devices, civilian **CNI risk analysis** techniques, **case studies and lessons identified from non-defence experts, our own contact registers, wikis and blogs, WhatsApp etc**

Central activity: Learning to mitigate increasingly contingent and unexpected risks to infrastructure **at the time and location of need**

Production

Consumption

Exchange   **Distribution**

Subject
Military infrastructure engineers, logisticians and medics

Object
Accessing **credible** infrastructure knowledge **where and when we need it**

Outcome
Collaborative **working and learning** with experts, **including non-defence experts**, to **understand** risks to **infrastructure**

Rules
Formal rules: IT Security policies, defence learning policies, **Informal rules: local practice and norms, dynamic risk assessments**, traditions and customs, interoperability restrictions, **psychological contracts**

Community
Tri-service colleagues, **NGOs, OGDs, non-defence experts**, learning support, CIS support, military IT security officers, School **military and civil service** strategists, families, friends

Division of Labour
Horizontal decision making with expertise to specialists for **technical credibility, vertical decision making to generalists for efficiency of** effort and resources

Change Laboratory for boundary learning in military higher education
Preparing for Session 9 (2021 cohort), Session 10 (Tech Trg Branch Lecs) and Session 11 (SMIs and QMSIs) - around 15 minutes
Exercise - experimental implementation

What?	In our separate groups we ought to conduct an experimental implementation of our new model of activity. We can then identify and log things that we still need to work on, including anything that other stakeholders may need to look at. We have some useful techniques to use, but we need to prepare them for our individual sessions before we bring them back to our central plenary...

So what?	There is an interested agent in the PEW's "boundary learning" who is used to working with us and is interested in assisting with this particular project. We're going to consider a number of likely contradictions and steps. Then, in our individual groups, we're going to use the new model to engage with the agent and see what happens. Before that, we'll try to make some predictions...

Now what?	Imagine that we're using the new model of activity to engage with the LNG Security Engineers and NG Grain LNG. The scenario is that forward based SNCOs need to immediately request advice on GOSP on a MENA deployment. Can you answer your own stakeholder group's questions, and predict how other groups will respond to their questions...

Group	What new support do you need?	What old problems will remain?	What might the mirror material look like?
LNG engineers			
2021 cohort			
Lecturers			
Managers			
Others			

Change Laboratory for boundary learning in military higher education
During Session 9 (2021 cohort), Session 10 (Tech Trg Branch Lecs) and Session 11 (SMIs and QMSIs)
Exercise - experimental implementation and group revisions of activity

Mediating artefacts
Physical and simulated infrastructure, **non-defence hardware and software**, civilian
CNI risk analysis techniques, case studies and lessons identified from non-defence
experts, our own contact registers, **4G signal**

Production

Consumption

Exchange   **Distribution**

Subject
Military infrastructure
**task formation project
team**

Object
Realistic access to
credible infrastructure
knowledge where and
when we need it

Outcome
Collaborative working and
learning **with industrial
and third sector
infrastructure experts**

Rules
**Standard operating procedures
from RSME QA procedures, Exercise
tasking orders, After Action
Reviews**

*Rules producing
activity: Military
managers explicitly
authorising non-defence
experts and TEL*

Community
**RSME command team, Client NGOs
and OGDs,** learning support, CIS
support, military IT security officers,
families, friends

Division of Labour
**Horizontal: signposted by lecturers for
technical credibility, vertical:
published by task team leader**

*Division of labour producing
activity: lecturers identifying and
coordinating credible **non-defence
sources of infrastructure expertise***

Change Laboratory for boundary learning in military higher education
During Session 12
Exercise - experimental implementation and whole-group revisions of activity

Mediating artefacts
Physical and simulated infrastructure, **non-defence hardware and software**, civilian
CNI risk analysis techniques, case studies and lessons identified from non-defence
experts, our own contact registers, **4G signal**

Production

Consumption

Exchange   **Distribution**

Subject
Military infrastructure
**task formation project
team**

Object
Realistic access to
credible infrastructure
knowledge where and
when we need it

Outcome
Collaborative working and
learning **with industrial
and third sector
infrastructure experts**

Rules
**Standard operating procedures
from RSME QA procedures, Exercise
tasking orders, After Action
Reviews**

*Rules producing
activity: Military
managers explicitly
authorising non-defence
experts and TEL*

Community
**RSME command team, Client NGOs
and OGDs,** learning support, CIS
support, military IT security officers,
families, friends

Division of Labour
**Horizontal: signposted by lecturers for
technical credibility, vertical:
published by task team leader**

*Division of labour producing
activity: lecturers identifying and
coordinating credible non-defence
sources of infrastructure expertise*

Change Laboratory for boundary learning in military higher education
Preparation for Session 13 - around 15 minutes
Exercise - Lessons learned (and not learned) for reflection and consolidation

What?	Rather than come to an abrupt halt, we now need to communicate our findings. They will influence the PEW's policies and practices, and will allow others who undertake similar research to benefit form lessons identified. This will be similar to the production of a PXR or POR, or to populating the RE LIDB after a task.

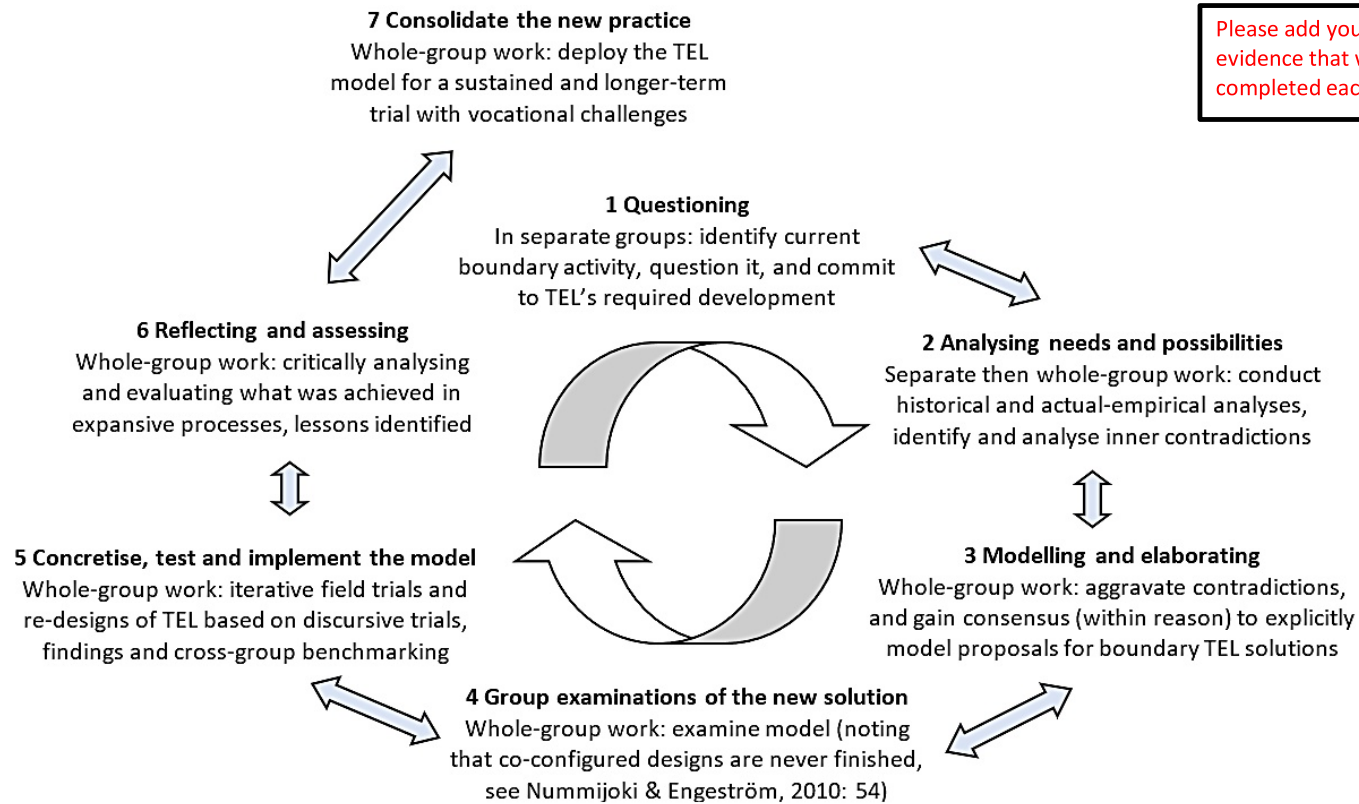|	
So what?	There are usually three things to consider: *Lessons stimulated*, which are the raw data and observations arising before, during or after the critical event; *Lessons identified*, which involve understanding causes and the consequences; *Lesson learned*, which involves the identification of the changes which would in future ameliorate the situation.

Now what?	We really need to consider these three things in order, followed by creating some plans for their consolidation and production. These need to be in a way which those outside our Change Laboratory sessions will appreciate. We'll complete the exercises below and overleaf in our closing sessions together.

First of all, assess where you think we are on the model overleaf. In our plenary we'll produce evidence that we've all been through the stages (they don't need to be in any order, and we may have been through stages several times, but we ought to assess whether we missed any). When we've done that exercise, we'll compile answers to the following:

• In earlier sessions we conducted a "past, present and future" four-field mapping exercise; how does our current progress compare with the projection?
• What changes need to happen to the PEW's organizational arrangements and roles to make our proposals sustainable?
• What changes need to happen to the PEW's doctrine and policies to make our proposals sustainable?
• What else do we need to do next, to make sure that what we've decided will continue to happen and will be sustainable?
• Is there anything that you expected to change which hasn't?
• Is there anything that you did not expect to change which has?

Change Laboratory for boundary learning in military higher education
Preparation for Session 14 - around 15 minutes
Exercise - Lessons learned (and not learned) for reflection and consolidation

7 Consolidate the new practice
Whole-group work: deploy the TEL
model for a sustained and longer-term
trial with vocational challenges

Please add your own opinions of
evidence that we have
completed each stage

1 Questioning
In separate groups: identify current
boundary activity, question it, and commit
to TEL's required development

6 Reflecting and assessing
Whole-group work: critically analysing
and evaluating what was achieved in
expansive processes, lessons identified

2 Analysing needs and possibilities
Separate then whole-group work: conduct
historical and actual-empirical analyses,
identify and analyse inner contradictions

5 Concretise, test and implement the model
Whole-group work: iterative field trials and
re-designs of TEL based on discursive trials,
findings and cross-group benchmarking

3 Modelling and elaborating
Whole-group work: aggravate contradictions,
and gain consensus (within reason) to explicitly
model proposals for boundary TEL solutions

4 Group examinations of the new solution
Whole-group work: examine model (noting
that co-configured designs are never finished,
see Nummijoki & Engeström, 2010: 54)

Change Laboratory for boundary learning in military higher education
Preparation for Follow-up sessions - around 15 minutes
Exercise - Sustenance

What? | We previously made some commitments. Imagine those commitments are an activity, and write down a specific action you can claim in contributing to that activity. Feel free to sketch an activity system if it helps, and when we meet we can discuss contradictions. If you haven't claimed any actions, then don't panic as we can discuss why and then we'll have three months until we meet again.

	Emil	Heywood	Carbree	Paderau	Finlay	Hunter	Gerard	Percey	Carlton
Must	Normalise - T4T session for colleagues on boundary learning						Legitimise - Feedback for ARTD symposium		
Should	Partnering CPD on boundary learning for MKCTS staff and for industrial partners						Presentation for technical symposium		
Could	Curate, analyse and use projects with this cohort as case studies, PDCA benchmarking						Article and calling notice for reservists		
Won't	Go back to the way we used to be						Delegate or HOTO any of the above		

Remember SMAAART means be specific, measurable, timebound, aggressive, accountable, achievable, realistic and timebound!

What did you do?	If nothing, why?	Either way, what would the mirror data be?

Change Laboratory for boundary learning in military higher education

Agenda for follow up workshops

If you are unable to attend, please inform the Chair of your nominated advocate 2 working days prior to the workshop

Denison L2-018 1330 hrs DD MMM YY		Denison L2-018 1330 hrs DD MMM YY	
1330 hrs	Introductions	1330 hrs	Introductions
1335 hrs	Summary of actions from previous follow up workshop	1335 hrs	Summary of actions from previous follow up workshop
1340 hrs	Action by Emil	1340 hrs	Action by Emil
1345 hrs	Action by Heywood	1345 hrs	Action by Heywood
1350 hrs	Action by Carbree	1350 hrs	Action by Carbree
1355 hrs	Action by Paderau	1355 hrs	Action by Paderau
1360 hrs	Action by Finlay	1360 hrs	Action by Finlay
1365 hrs	Action by Hunter	1365 hrs	Action by Hunter
1370 hrs	Action by Gerard	1370 hrs	Action by Gerard
1375 hrs	Action by Percey	1375 hrs	Action by Percey
1380 hrs	Action by Carlton	1380 hrs	Action by Carlton
1385 hrs	Action by Barnabas	1385 hrs	Action by Barnabas
1390 hrs	Action by Allyn	1390 hrs	Action by Allyn
1395 hrs	Action by Rhet	1395 hrs	Action by Rhet
1400 hrs	Action by Brandt	1400 hrs	Action by Brandt
1405 hrs	Action by Lancelot	1405 hrs	Action by Lancelot
1410 hrs	Action by Irvine	1410 hrs	Action by Irvine
1415 hrs	Action by Arden	1415 hrs	Action by Arden
1420 hrs	Action by Warwick	1420 hrs	Action by Warwick
1425 hrs	Action by Jared	1425 hrs	Action by Jared
1430 hrs	Action by Felix	1430 hrs	Action by Felix
1435 hrs	Closing remarks around the table	1435 hrs	Closing remarks around the table
1440 hrs	Closing remarks by the Chair	1440 hrs	Closing remarks by the Chair