



Building a community of practice and employer engagement to enhance Systems Thinking in Practice.

Martin Reynolds

Department of Engineering and Innovation

With colleagues:

Chris Blackmore
Ray Ison
Rupesh Shah
Elaine Wedlock

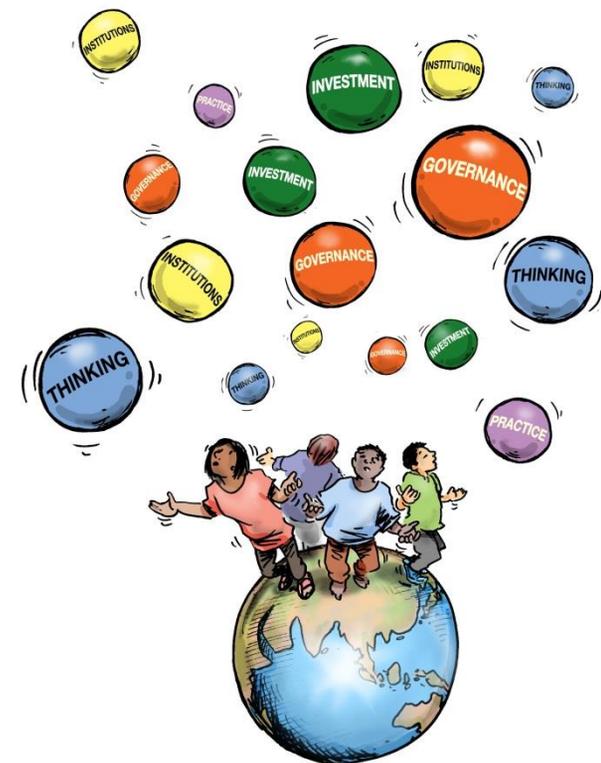
**The 3rd eSTEeM Annual
Conference
The Open University**

Date: 6 May 2014



- Systems Thinking in Practice (STiP): a postgraduate programme
- STiP performances
- STiP challenges

- eSTEEeM project: what?
- eSTEEeM project: how?
- eSTEEeM project: why?





C72

| Postgraduate Certificate in Systems Thinking in Practice 60 credits | | |
|---|---|---|
| Option 1 | Option 2 | Option 3 |
| TU811 (30 credits) + TU812 (30 credits) | TU811 (30 credits) + 30 credits from other relevant postgraduate modules | TU812 (30 credits) + 30 credits from other relevant postgraduate modules |

E28

| Postgraduate Diploma in Systems Thinking in Practice 120 credits |
|--|
| Postgraduate Certificate (60 credits) + extra 60 credits: (2 x 30 credit modules or 1 x 60 credit module) choose from relevant postgraduate modules; must include TU811 and TU812 if you have not already completed both of these |

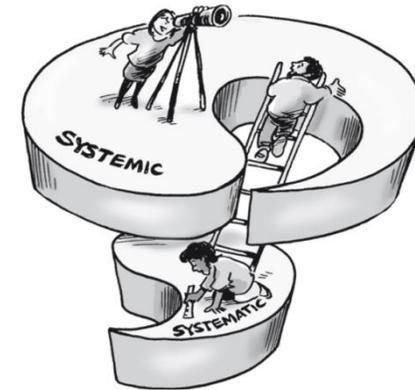
F47

| MSc in Systems Thinking in Practice 180 credits | |
|--|-------------------|
| Postgraduate Diploma (120 credits) + extra 60 credits from: | |
| Professional route | Research route |
| T847 (30 credits) + 30 credits from relevant postgraduate modules not already completed for the Diploma | T802 (60 credits) |



Systems Thinking in Practice

Postgraduate qualifications from the Open University



X2 Core modules:

Thinking strategically: systems tools for managing change

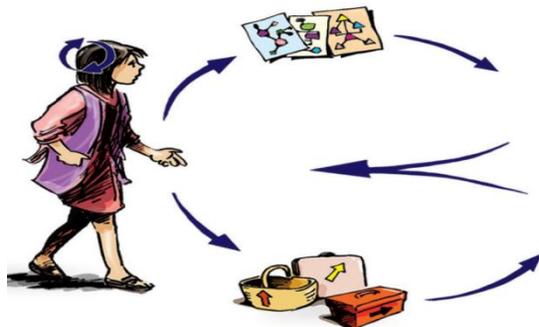
TU811 – 30 credits

- views managing as about taking action on the basis of your understanding of a complex interconnected situation, where others involved may have different understanding, motivation and interests.
- develops your understanding of complex situations using robust tools from the traditions of systems practice to think strategically about change and uncertainty.

Managing systemic change: inquiry, action and interaction

TU812 – 30 credits

- views change as inescapable in everyday managing in situations.
- equips you with skills to shape the nature and direction of change
- enables you to use systems thinking and practice to help you engage with change and recognise the interconnected nature of organisations and environments.



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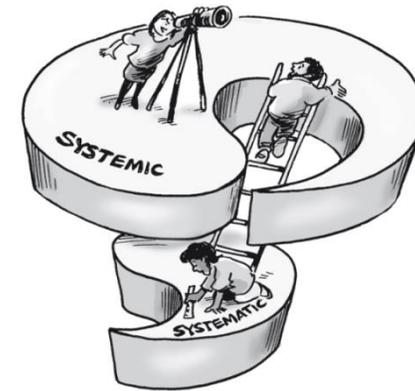
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Postgraduate Certificate in Systems Thinking in Practice

60 credits

Understand the nature of complex problem situations and the tools with which they can be tackled.

Postgraduate Diploma in Systems Thinking in Practice

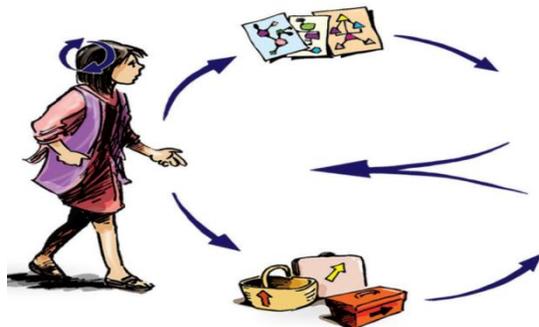
PG certificate plus 60 credits

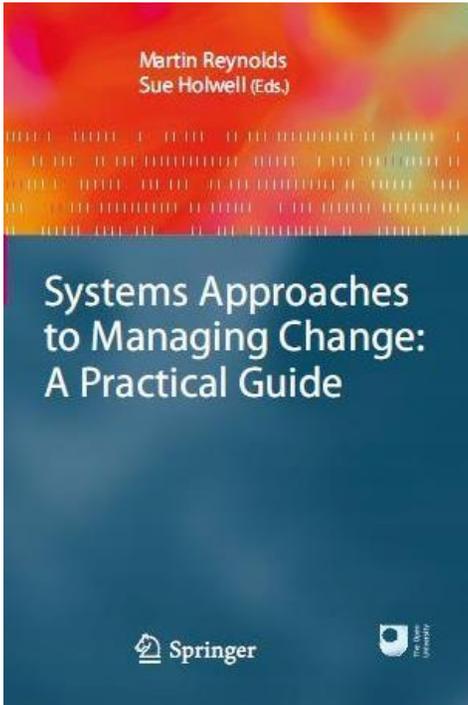
Learn how, in complex situations you can engage with others in coming to a common language, common understanding and an agreed way to tackle complex problem situations.

MSc in Systems Thinking in Practice

PG diploma plus 60 credits

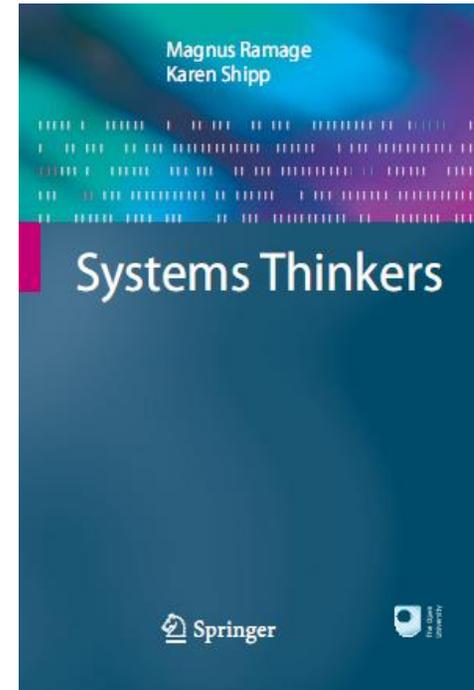
Integrate the knowledge of the tools and approaches of systems thinking in practice with your own specialist discipline area, and knowledge of business and management



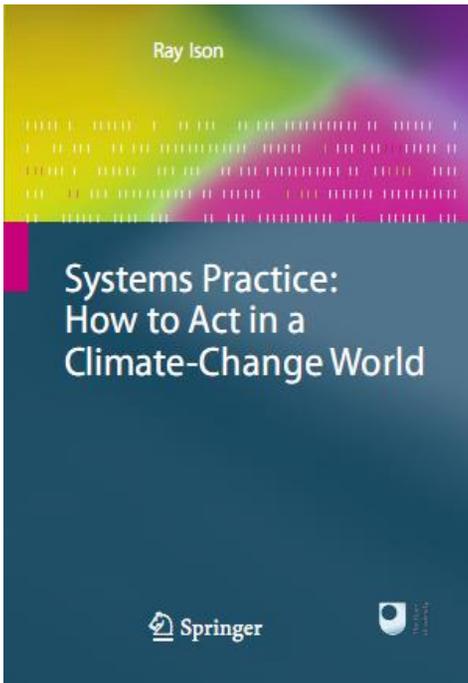


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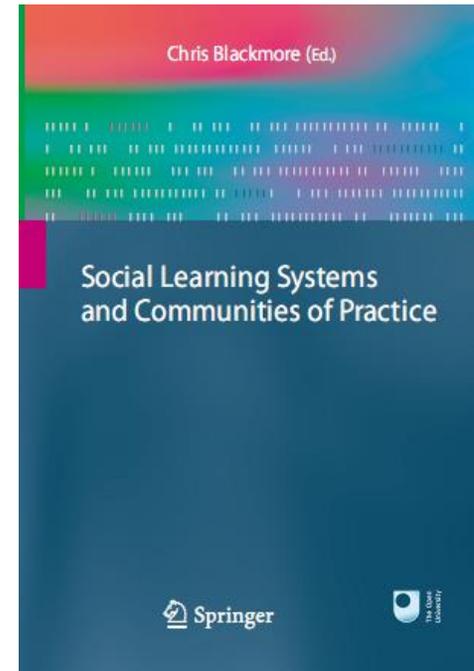
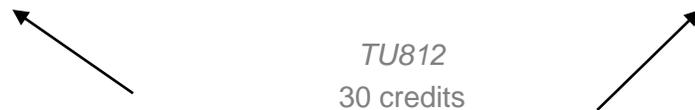


Systems Thinking in Practice
Postgraduate programme 2011
Masters/ Diploma/ Certificate



TU812
30 credits

Managing systemic change:
Inquiry, action and interaction

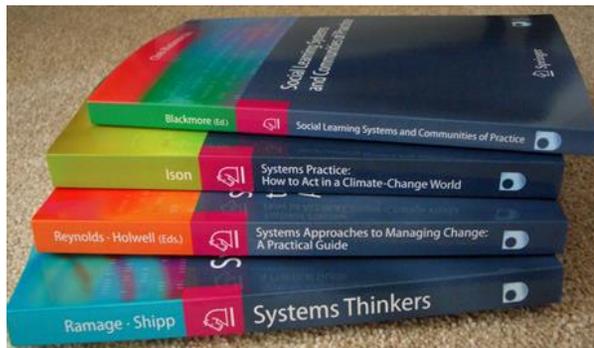




Systems Thinking in Practice

Postgraduate recruitment since 2010

| Year | TU811 | TU812 | Total |
|--------------|------------|------------|------------|
| 2010 | 91 | 107 | 198 |
| 2011 | 134 | 83 | 217 |
| 2012 | 111 | 78 | 189 |
| 2013 | 110 | 97 | 207 |
| Total | 446 | 365 | 811 |



| Module | Presentation | Non-UK% | EU | Ireland | Outside EU |
|--------|--------------|---------|-----|---------|------------|
| TU811 | 2011 | 31% | 18% | 3% | 9% |
| TU811 | 2012 | 28% | 11% | 5% | 12% |
| TU812 | 2011 | 40% | 28% | 4% | 8% |
| TU812 | 2012 | 18% | 15% | n/a | 1% |



Systems Thinking in Practice

Wider sales of the four books co-published with Springer (UK)

| Title | 2010 | 2011 | 2012 | 2013 | Total | |
|--------------------------------|----------|----------|----------|----------|-------|----------|
| | Chapters | Chapters | Chapters | Chapters | Books | Chapters |
| Systems Thinkers | 3344 | 2548 | 3621 | 574 | 1437 | 10903 |
| Systems Approaches | 1101 | 1171 | 1499 | 424 | 1022 | 4195 |
| Systems Practice | 346 | 439 | 582 | 107 | 477 | 1474 |
| Social Learning Systems | 969 | 1281 | 1451 | 406 | 465 | 4107 |
| TOTAL | | | | | 3401 | 20,679 |





Systems Thinking in Practice

LinkedIn alumni group

- **Module forums:** successful pedagogy through online discussion groups with both TU811 and TU812
- **Self-organising since 2010:** x550 + alumni...
- **Mutual support:** advice and views shared regarding choice of electives and opportunities arising for consultancies etc.
- **Published outputs:** x3 peer-reviewed publications following critical reading and feedback on alumni site
- **Events:** face to face meetings in York, Dublin, and London (forthcoming)

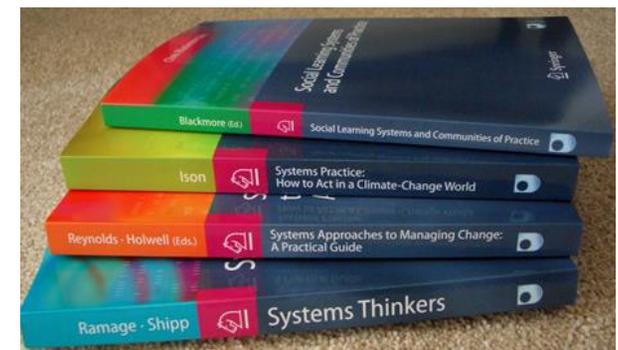
The screenshot displays the LinkedIn interface for the 'Systems Thinking in Practice' group. At the top, the browser address bar shows the group's URL. The LinkedIn navigation bar includes options like Home, Profile, Network, Jobs, and Interests. The group header features the Open University logo, the group name, and a 'Member' button. The main content area shows a post by Helen Wilding, a 'Your Activity' section, and a post by Martin Reynolds. A sidebar on the right lists 'Top Influencers' and an advertisement. The Windows taskbar at the bottom shows the system tray with the time 21:43.



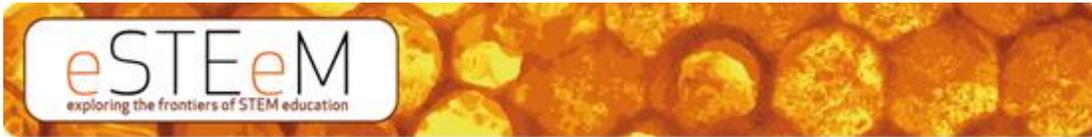
Systems Thinking in Practice

Key challenges

- **Demand pull?** employment opportunities (alumni)
- **Supply driven?** OU marketing of STiP (Faculty silos)
- **Retention:** 70-80% - not significantly low, but...
- **“Wacky subject!”:** The Independent review 2013*
 - epistemic understanding of systems
 - active pedagogy
 - design learning
- **‘Delivery’ model:** supply-customer (passive top-down)



* Finn, W. (2013) “A World of Wacky Subjects” [The Independent](#) (UK Newspaper: Post Graduate Supplement) , 20th November, 2013, pp. 5-6



eSTEEeM Project: What?



Design a postgraduate recruitment and retention (learning) system based on systemic inquiry

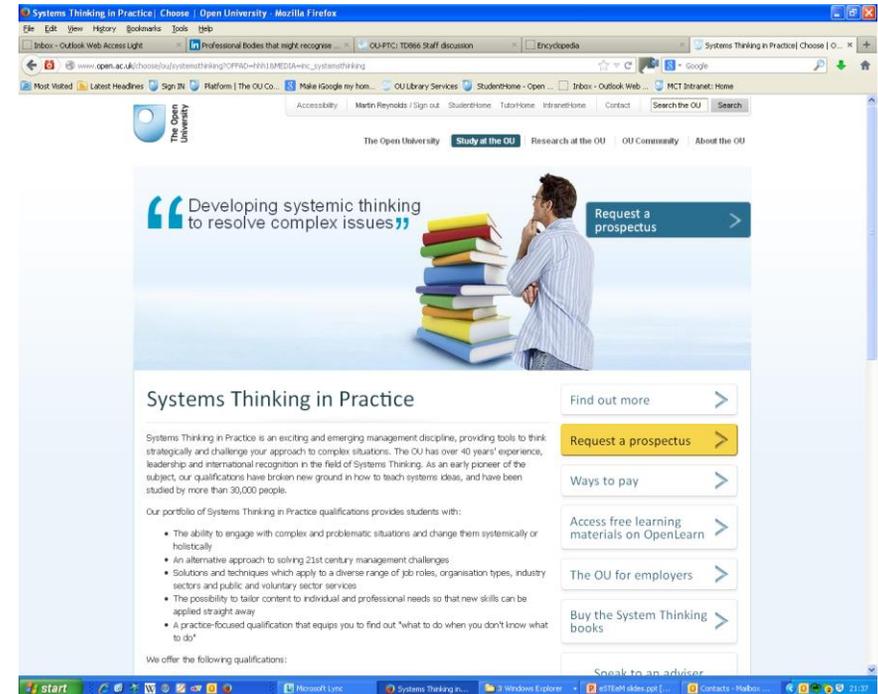
- Case study focus on PG programme of Systems Thinking in Practice (STiP)
- With employer engagement

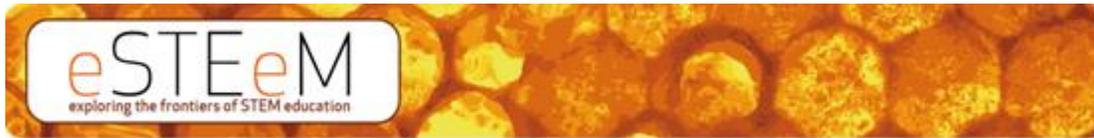
Who?

Martin Reynolds
Chris Blackmore
Ray Ison

Rupesh Shah
Elaine Wedlock

Members of Applied systems thinking in practice (ASTiP) Group





How?



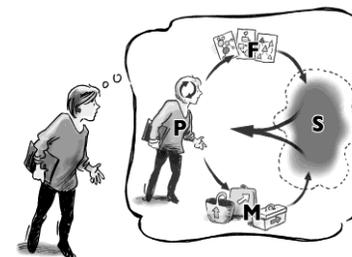
3 phases of systemic inquiry (c.18 months)

- Understanding existing PG situation of students (x10 interviews and x1 group follow-up video-conference meeting)
- Engaging with STiP alumni group and employers (x20 interviews + seminar and workshops)
- Developing systemic model of retention and recruitment;
 - Working paper
 - Refereed journal paper
 - Platform bid for wider systemic inquiry (HEFC/ ESRC/ EPSRC...)



Who does it?

- Two ALs (c.24 days in total)
- ASTiP team (c. 80 days)

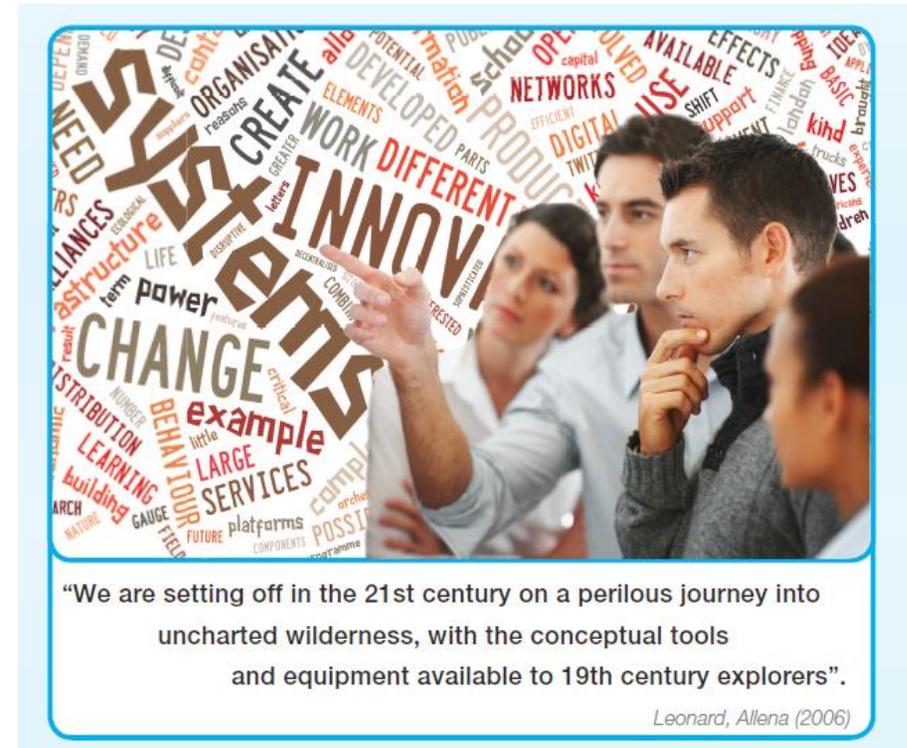


P = practitioner
F = framework of ideas/theory
S = situation
M = method or methodology



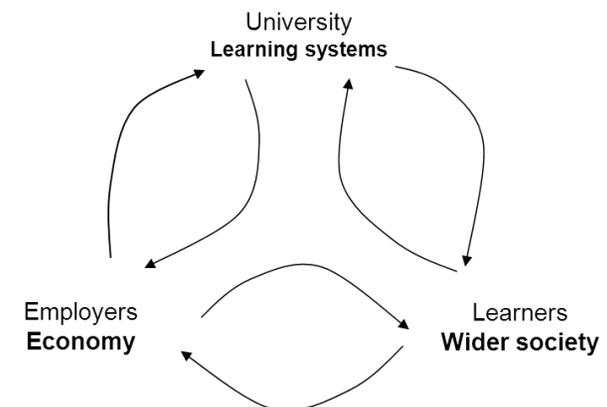
Exploring an alternative pathway of partnership for postgraduate curriculum development

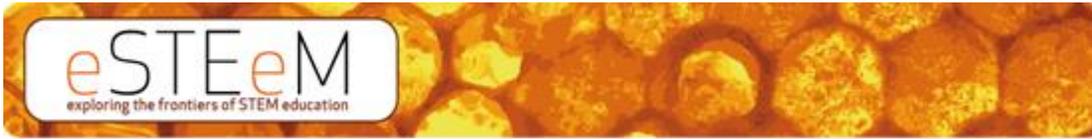
- Drawing on largely ‘untapped’ resource of alumni experiences and enthusiasms coupled with employers needs (unique to OU)
- Reducing dependence on ‘externalised’ (and often costly) marketing
- Developing more relevant and quality-enhanced curriculum content/ structure and support



Who benefits?

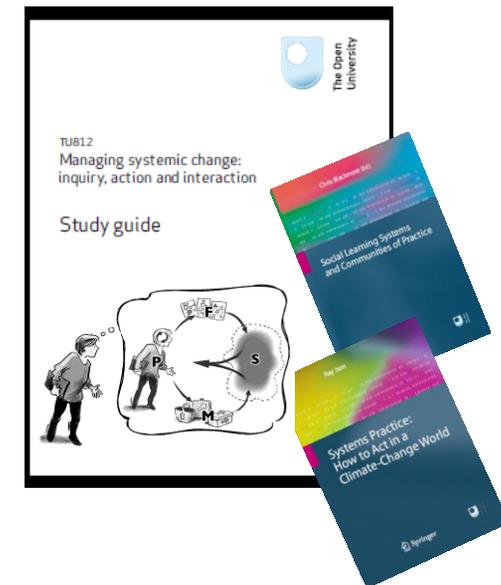
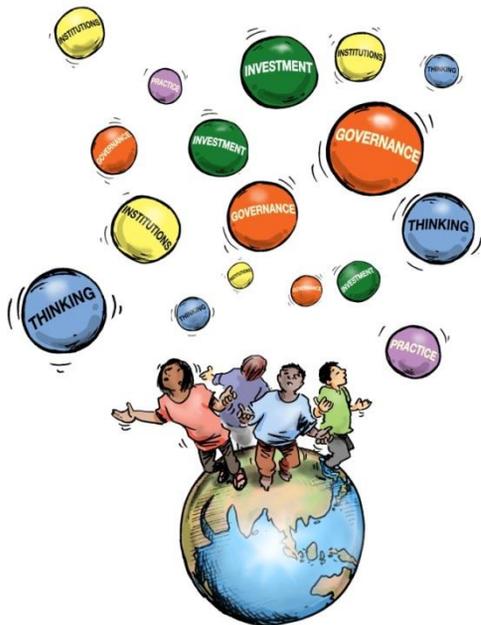
- University PG support
- Learners and employers





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Systems Thinking in Practice
Department of Engineering and Innovation
The Open University

Tel: +44 (0)1908 654894 (work)



Certificate, Diploma or Masters
in Systems Thinking in Practice





Mind the Gap

Developing praxis for learning, teaching, and working amongst OU postgraduate students

Martin Reynolds

Department of Engineering and Innovation

With colleagues:

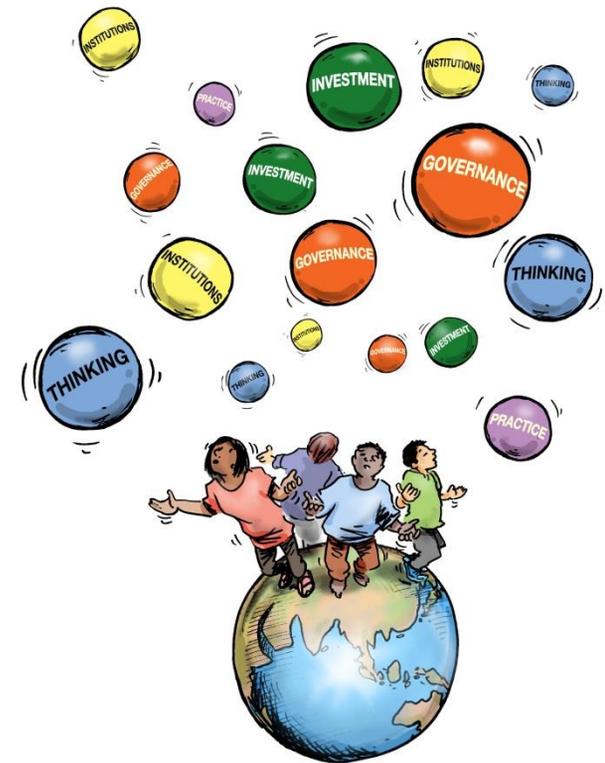
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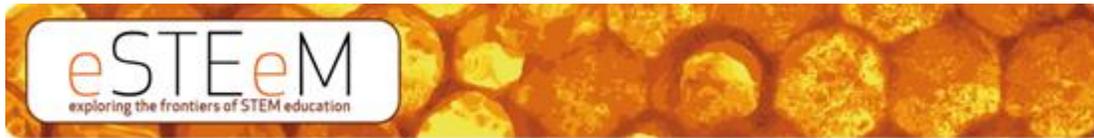
**The 4th eSTEeM
Annual Conference
The Open University**

Date: 16 April 2015



- Project outline: Enhancing Systems Thinking in Practice at the Workplace
- Phase 1: Barriers and enablers with PG study experiences
- Phase 2: Barriers and enablers with post-study work
- Phase 3: Design learning system for better pedagogy
- Challenges





eSTEEeM project outline:

What?



Design a (learning) system for postgraduate recruitment and retention based on systemic inquiry

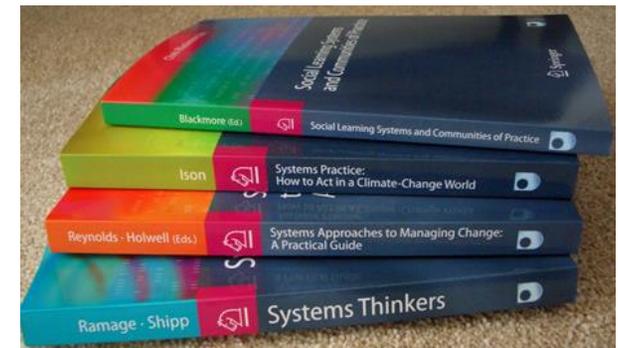
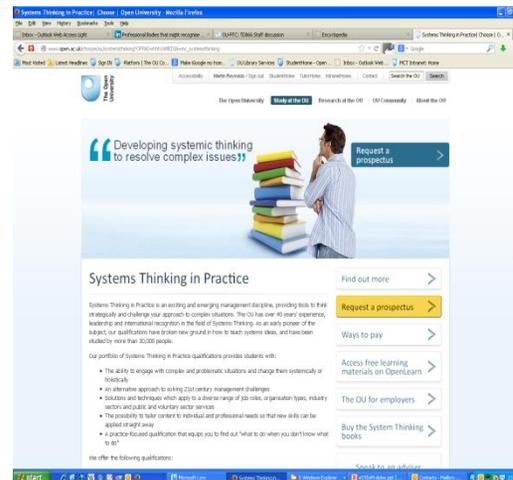
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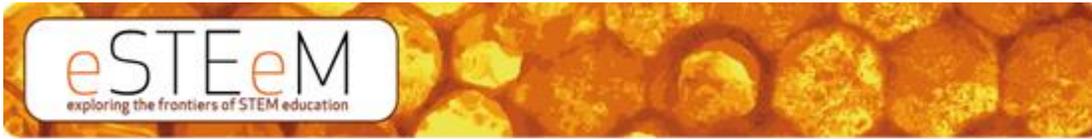
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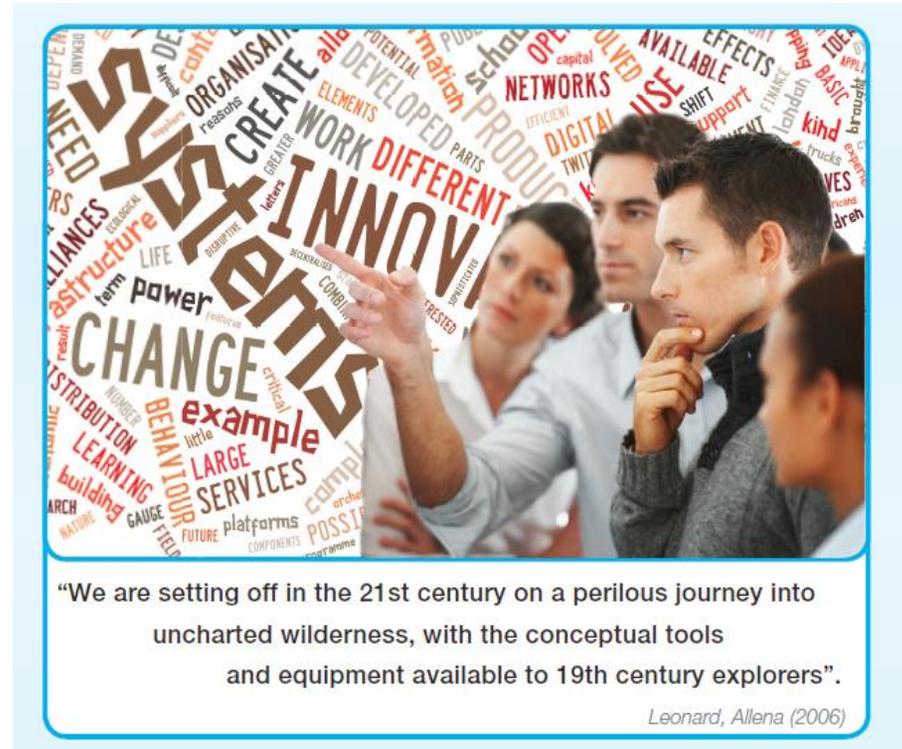
eSTEEeM project outline:

Why?



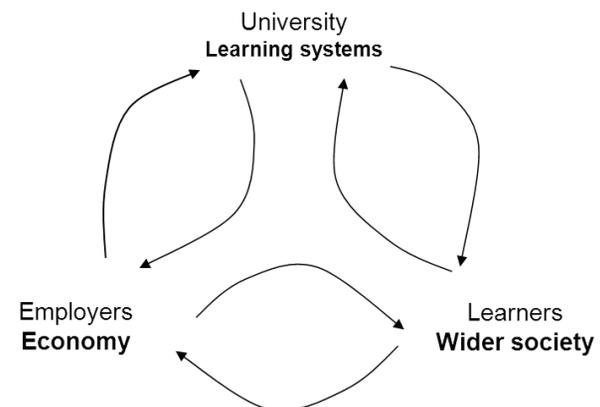
Need for an alternative pathway of partnership for postgraduate curriculum development

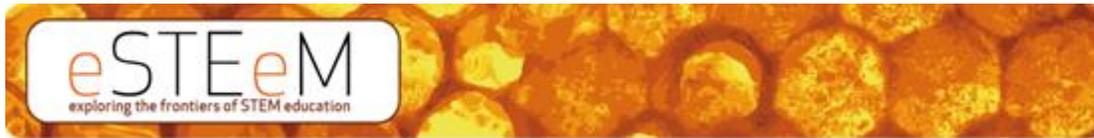
- Reduce dependence on ‘externalised’ (and often costly) marketing and draw on demand-pull
- Draw on largely ‘untapped’ resource of alumni experiences and enthusiasms coupled with employers needs (unique to OU)
- Develop more relevant and quality-enhanced curriculum content/ structure and support



Who benefits?

- University PG support
- Learners and employers





eSTEEeM project outline:

How?

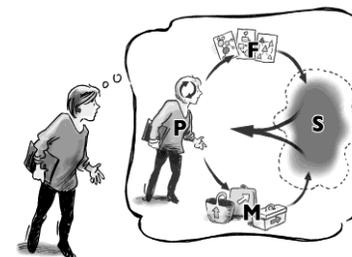
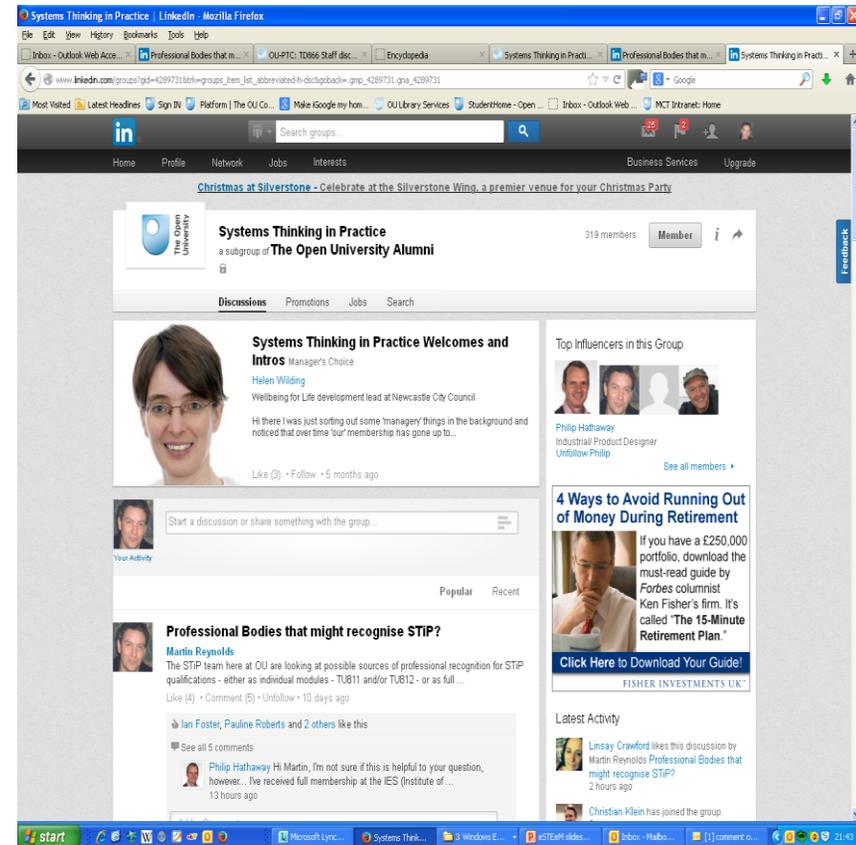


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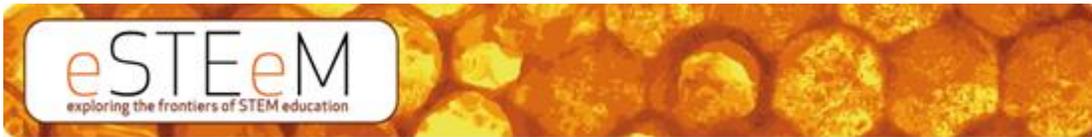
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- Phase 2: Engaging with STiP alumni group and employers (c.x20 interviews)
- Phase 3: Developing systemic model of retention and recruitment (workshops)
- Phase 4: Dissemination
 - Working paper
 - Refereed journal paper
 - Platform bid for wider systemic inquiry (HEFC/ ESRC/ EPSRC...)

Who does it?

- Two ALs (c.24 days in total)
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Phase 1



Barriers and Enablers in PG part-time study

- core STiP modules - TU811 and TU812

Procedural issues

- Limited sample (x10) ...no statistical significance
- self-selecting: students willing to give up 30-40 minutes + possible further workshop engagement
- OU Live session to jointly explore outcomes
- Feedback given to all phase 1 students regarding consolidated findings + invitation

Key 'barriers' (in addition to usual study-work balance)

- Changes in work circumstances whilst studying
- Forum discussions can be intimidating
- PG language: abstract nature of subject matter
- Case study: specific to students reinforcing solitude

Key 'enablers'

- Chance to experiment in workplace situation
- Richness of voices and sharing experiences
- Resonance of (systems) ideas with work experiences
- Legitimacy of own views being expressed

X2 Core modules on STiP (Systems Thinking in Practice) qualifications:

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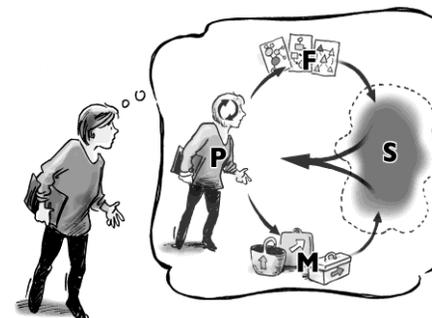
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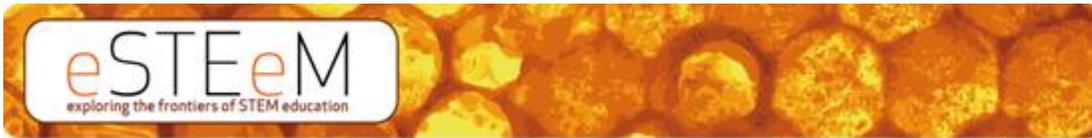
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Phase 1



x5 archetypes from STiP cohorts

- 'Teach me tell me' - limited authority in workplace
- 'MBA-ready' - newish to systems thinking but having responsibilities
- 'Geoffrey Vickers lite' – senior business with views on systems thinking
- 'Get diploma and make hay' – worldly experienced though new to systems thinking
- 'Naked systems thinkers' – already appreciating inter-relationships and multiple perspectives

Interviews with ALs on student retention

- Ray Ison interviewed all STiP ALs (x7)
- Little understanding of timelines and money issues and TMA banking
- No tagging of students returning and doing well
- AL contracts start 2 weeks after students have initial access to course materials
- Initial starting conditions for students new to systems thinking: limited opportunity for conversation

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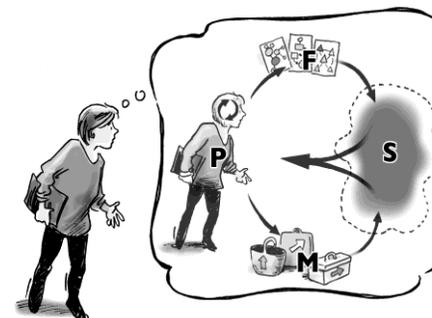
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Applying PG learning in the workplace

- Knowledge constitutive interests (Habermas, 1971)
- Some PG courses have fewer problems applying PG learning to workplace – e.g. technical-based subjects like computing and environmental technologies...technical interests
- Some PG courses engage with complexity ie. *interdisciplinary* and *transdisciplinary* elements e.g. systems thinking in practice, development management, technology management, environmental management... ‘practical’ (communicative) and ‘emancipatory’ (political) interests

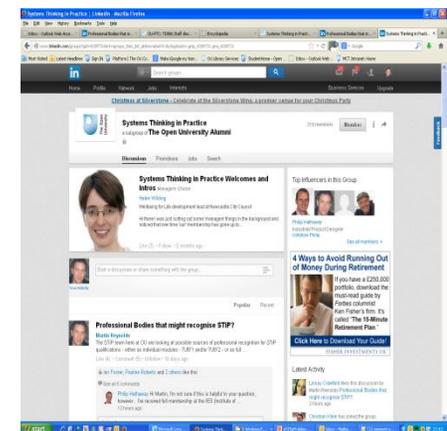


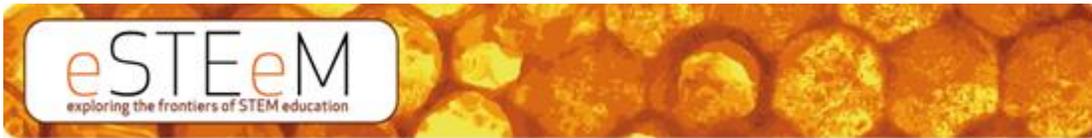
Identifying the gap

- Espoused theory and theory in practice (Argyris and Schön, 1974)
- STiP...ers (alumni) experiences and Employ..ers needs
- Semi-structured interview schedules designed to flush out contrasting expectations and experiences

Special data-sets

- STiP-er partnered with employer
- STiP-er first followed by employer-partner separately
- X8 partner groups (pharmaceutical, NHS, HE, IT, EU funding, UN FAO, Disability support, Volunteer support)





Phase 2



Themes arising: dealing with the workplace

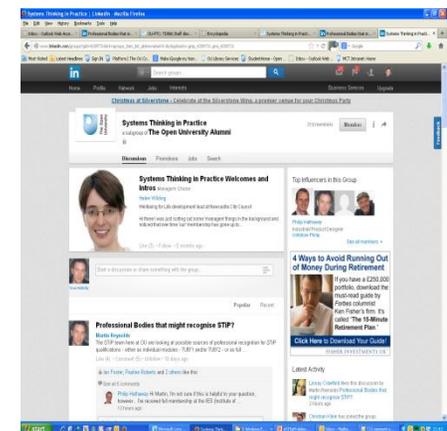
- Pre-defined job specifications
- Power dynamics ...covert systems thinking
- BAU (business as usual) pressures on resources (time etc.)
- Organisational silos
-

Themes arising: dealing with the study experience

- Confronting misplaced expectations – technical fixing of ‘systems’ or extravagant ‘leadership’ roles
- Shifting from individual understandings (aha! moments) to co-worker practical engagement with work colleagues on issues
- Dealing with sense of ‘hypocrisy’ – not being able or confident to ‘walk the talk’
- Practising autonomy in workplace
-

Possible relational archetypes

- ‘mother-child’
- ‘autonomy supporting’
- ‘mutual empowering’
- ‘co-learning’
- ...





Workshop purpose

- Discuss tentative findings
- Co-design new learning system based on systemic inquiry:
 - exploring inter-relationships between employment and study
 - engaging with perspectives (alumni, employers, ALs, academics, marketing etc.)
 - reframing boundaries of design parameters

Workshop logistics

- May 8th Camden Regional Office 10.30am to 3pm
- All participants from phase 1 and phase 2 (90% positive response)
- Special guests active in alumni group (Helen Wilding) and with HR in OU (Phil Wason)
- Some limited expenses support for those in need (including travel from Dublin and Rome)

Ongoing work to Phase 4

- Working paper and seminar at OU
- At least one peer-reviewed article (probably two)
- Bid for wider research grant



Challenges



- Retaining high quality of existing provision (avoid technology fixes...VLE)
- Reconfiguring PG course production and provision (changing role of educators as gatekeepers to facilitators and co-learners)
- Changing marketing ethos from supply-driven to demand-pull
- Drawing on expertise and experiences of ALs
- Securing involvement of OU alumni (as mentors)
- Securing involvement of employer-partners



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Enhancing 'conversation' at the OU

Developing praxis for learning, teaching, and working amongst OU postgraduate students

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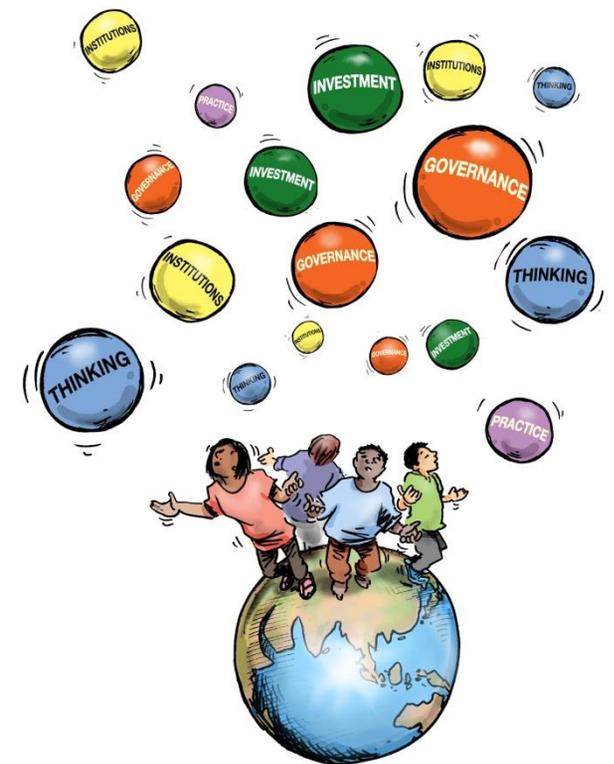
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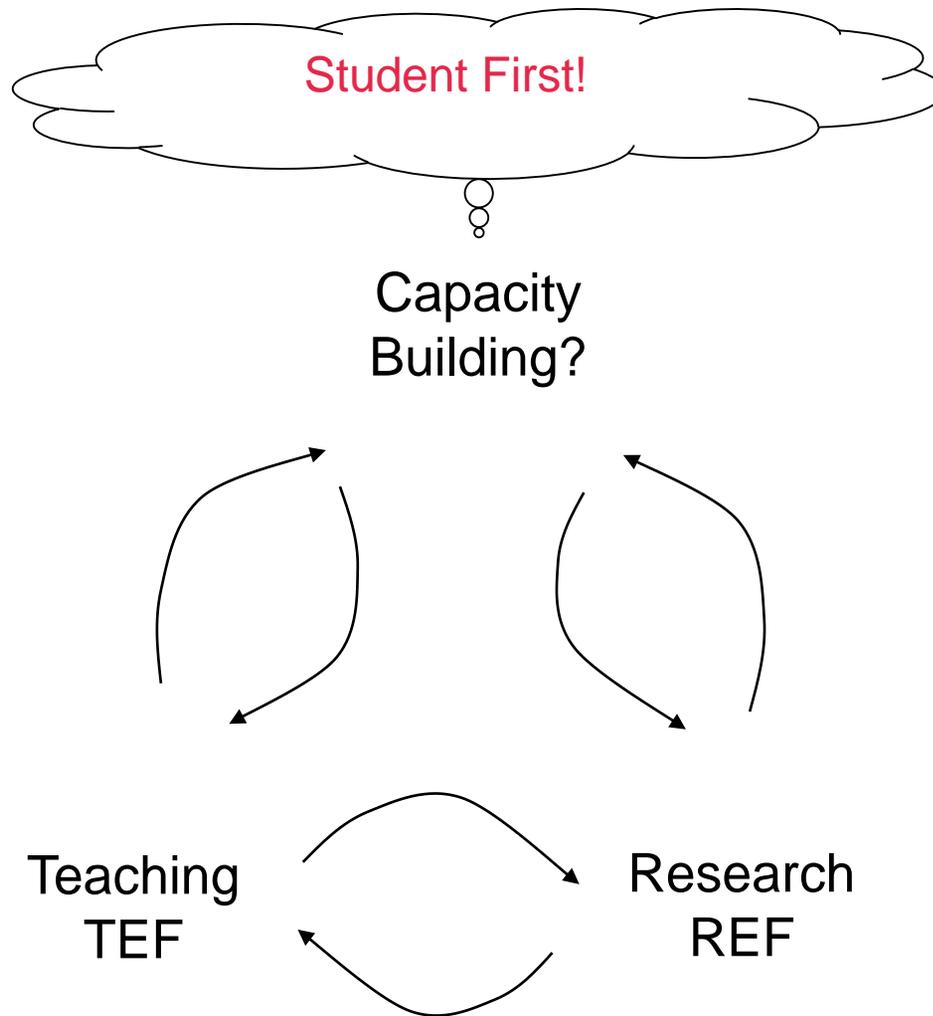
Date: 14 April 2016



- Praxis: 'unique selling point' of OU and STEM Faculty?
- 'Conversation': OU as a complex learning system
- 3 orders of conversation: systems thinking in practice
- eSTEEeM project conversations
- eSTEEeM project outcomes
- Challenges: towards a complex adaptive system



The Open University: an existential crisis?



'USP' of OU

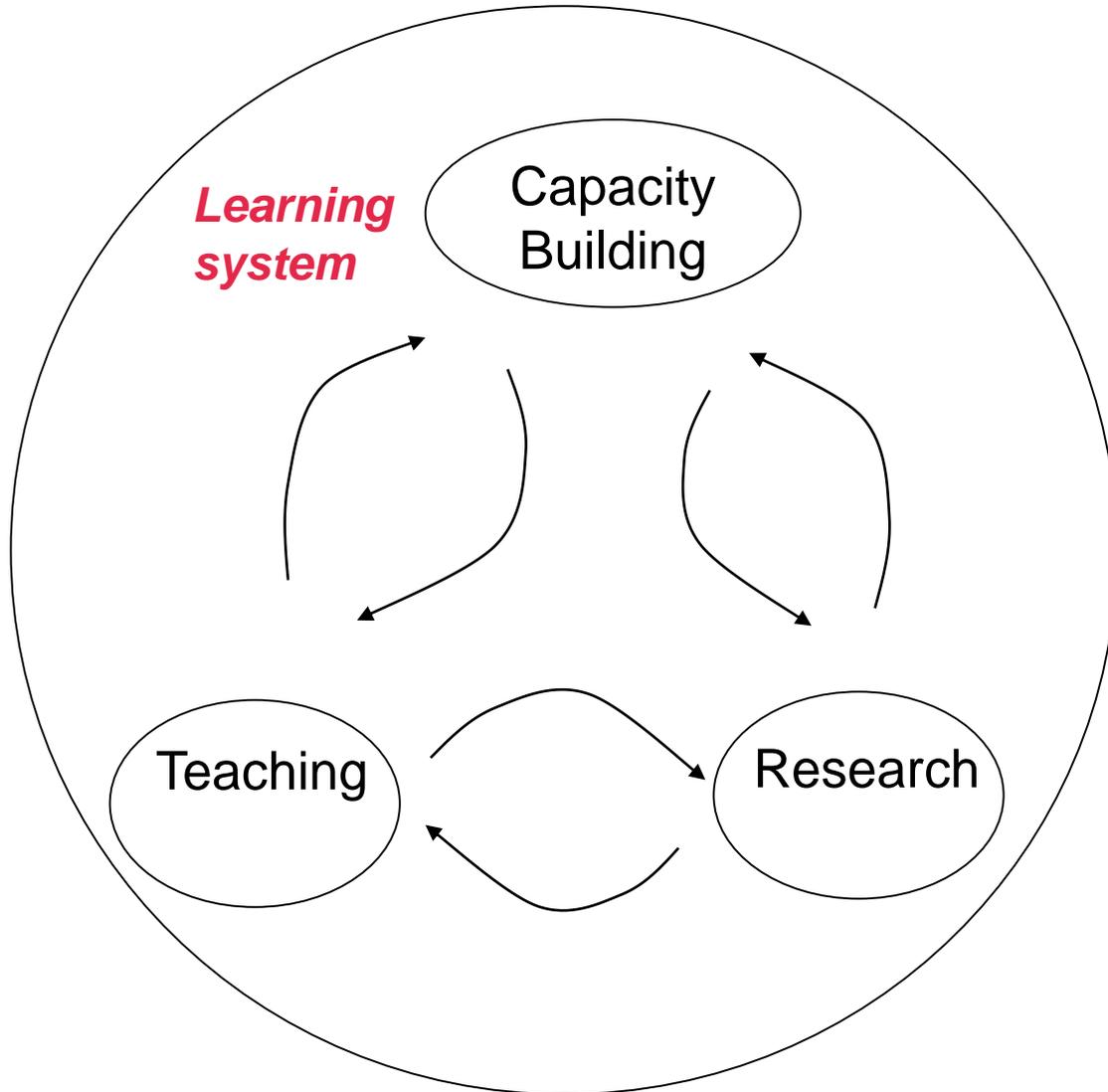
1. **Openness**
2. **Scale and reach**
3. ***Learning system***

(OU perspective)

4. **Life changing experience**

(student perspective)

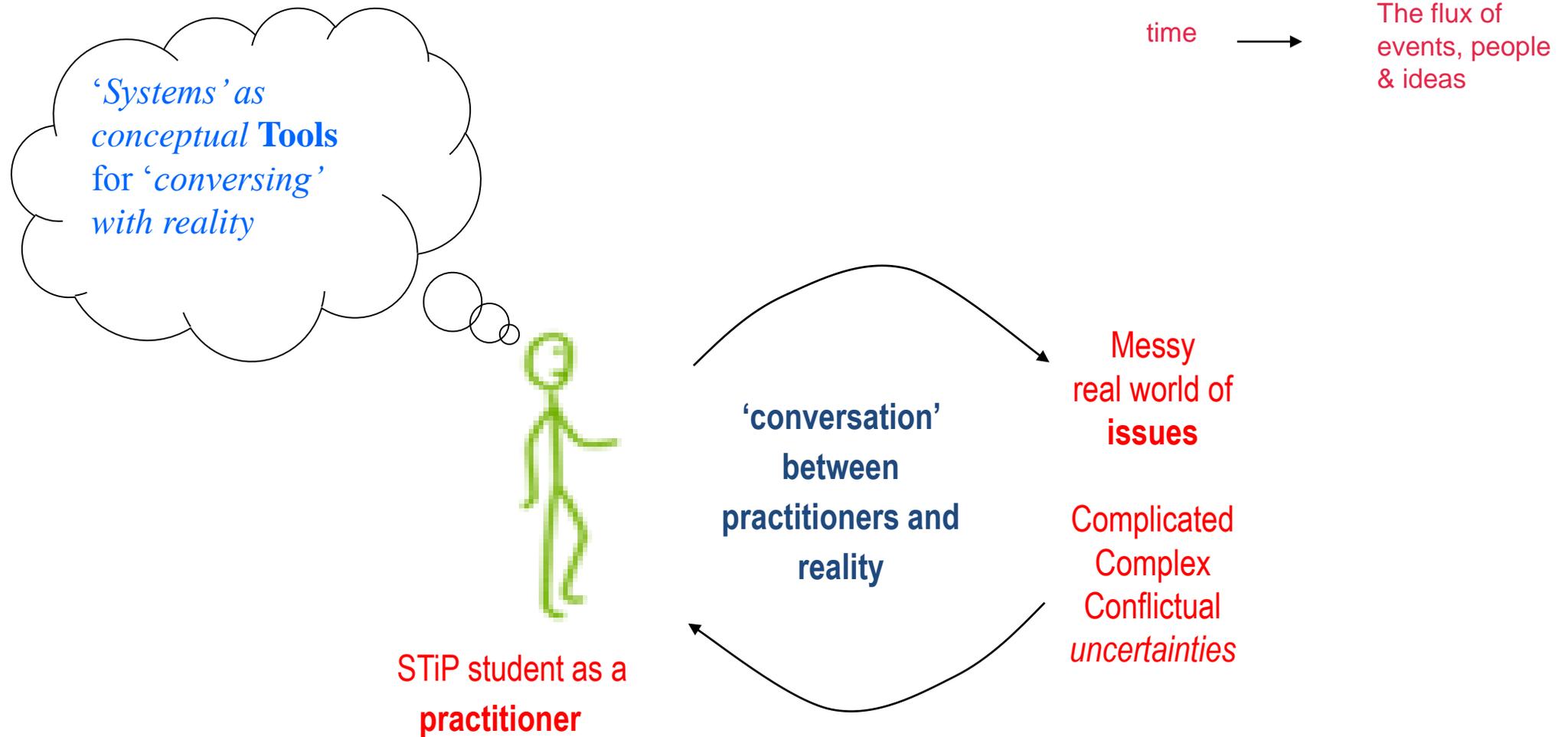
The Open University: a complex learning system



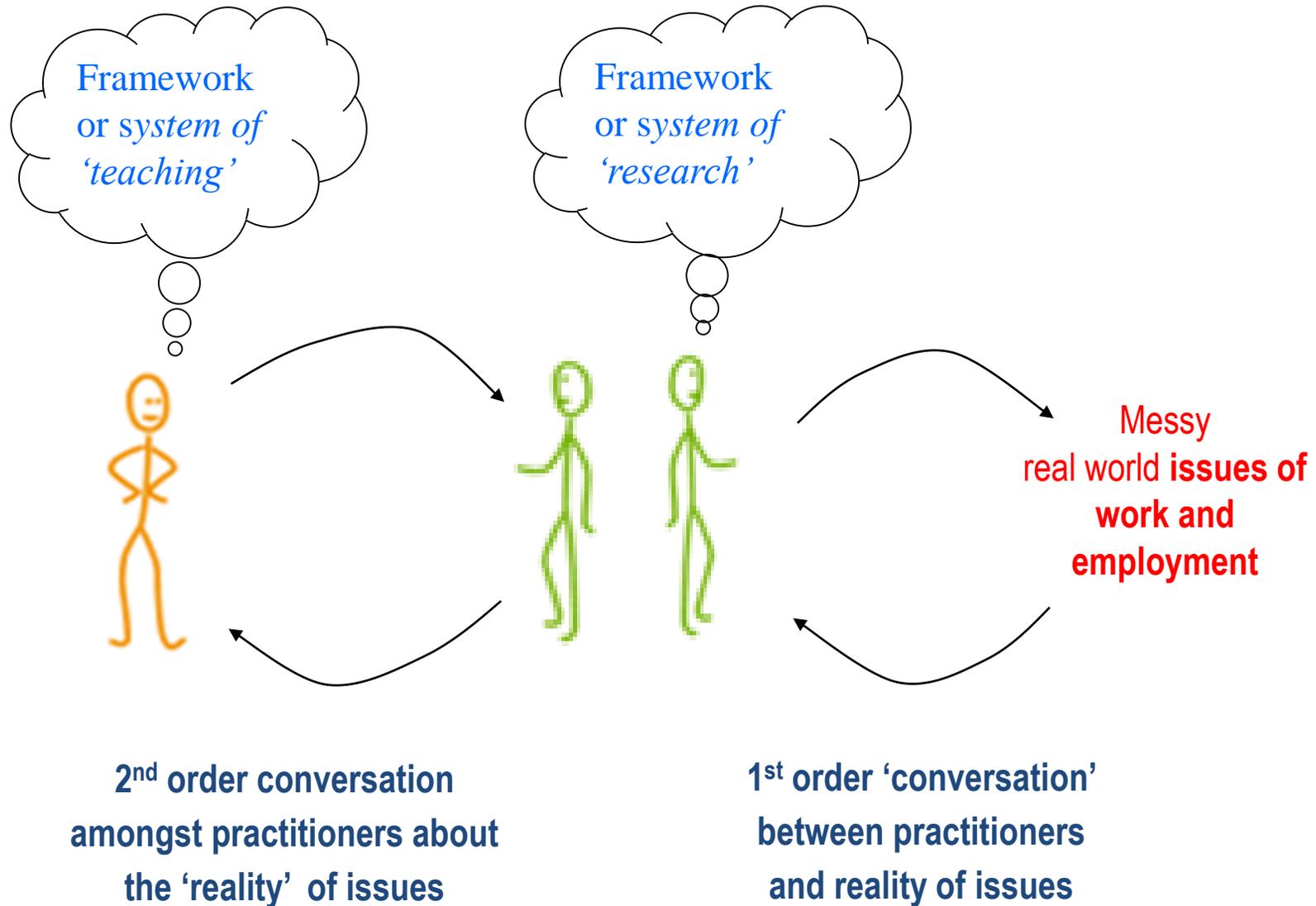
OU is a 'unique' *Learning system*

1. Built on ongoing 'conversations'
2. Based on social constructivist pedagogy/ social learning – people learn by discussing (cf FutureLearn)
3. Conversation is metaphor for praxis dynamic: theory in action; thinking in practice
4. Core OU praxis dynamic is between research and teaching
5. OU system is 'complex' dynamic; i.e. involving different perspectives (team work – feedback)
6. 'Conversation' transcends boundaries – rich tradition of inter- and trans-disciplinarity in Technology Faculty (1970 ...)
7. John Beishon (1971 – Professor of Systems) –designed systems curriculum (T241 Systems Behaviour)... 'inventing as they went along'
8. Systems thinking and 3 orders of 'conversations'

Systems thinking in practice (STiP) as 'conversation'



Praxis as two orders of 'conversation'



3rd order conversation in praxis

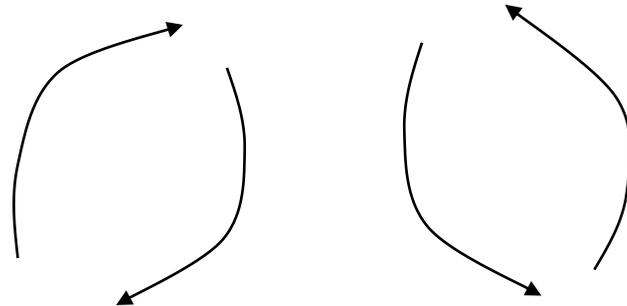


Reflecting on limitations of 1st and 2nd order 'conversations'

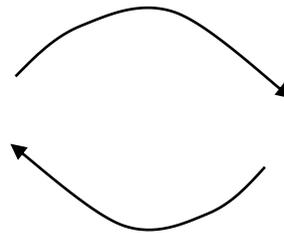
Conceptual tools for understanding and changing systems



3rd order 'conversation' involving reflection and *redesign* of system boundaries



2nd order conversation amongst practitioners about the 'reality' of issues



1st order 'conversation' between practitioners and reality of issues

Three orders of conversation



1st order conversing with reality

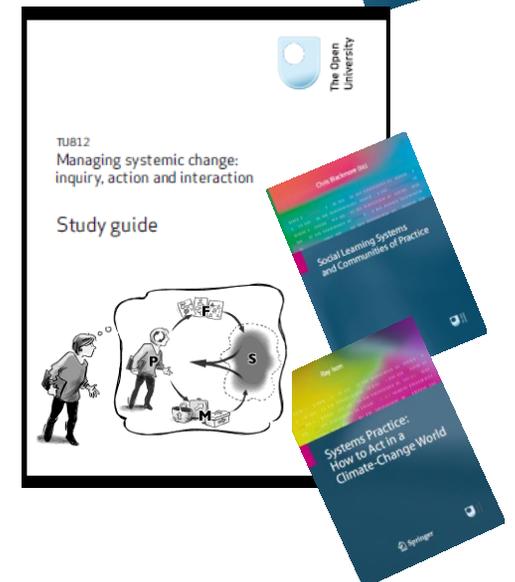
2nd order conversing with perspectives

3rd order conversing through reflection

Some recommendations for STiP postgraduate curriculum development based on 3 orders of conversation arising from eSTEE M project



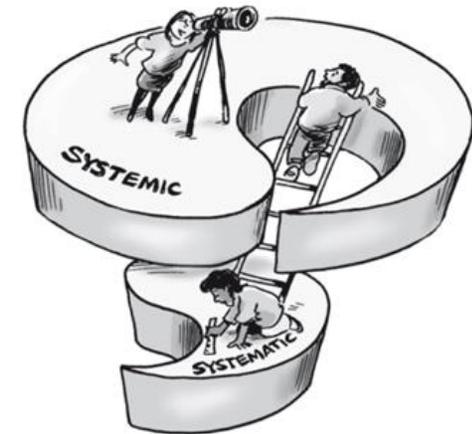
- (1st order): develop repository of case studies as benchmark for systems thinking in practice
- (1st order): launch 2nd edition of 4 Springer books
- (2nd order): co-design learning system with employers and alumni
- (2nd order): explore use of twitter and other social media for facilitating peer conversations
- (2nd order): promote action learning amongst online alumni
- (2nd order): promote workplace coaching with employers of STiP alumni
- (2nd order): explore partnership ideas with conventional universities on f2f complementarities
- (3rd order): enhance appreciation of student learning journeys through development of 'archetypes'
- (3rd order): challenge 'turf wars' and methodological pluralism amongst systems practitioners; promote models of bricolage and juggling
- (3rd order): design modules customise-able for professional development bespoke short courses
- (3rd order): re-design system for retention and recruitment
- (1st and 3rd order): develop professional recognition of STiP through a competency framework



Certificate, Diploma or Masters
in [Systems Thinking in Practice](#)



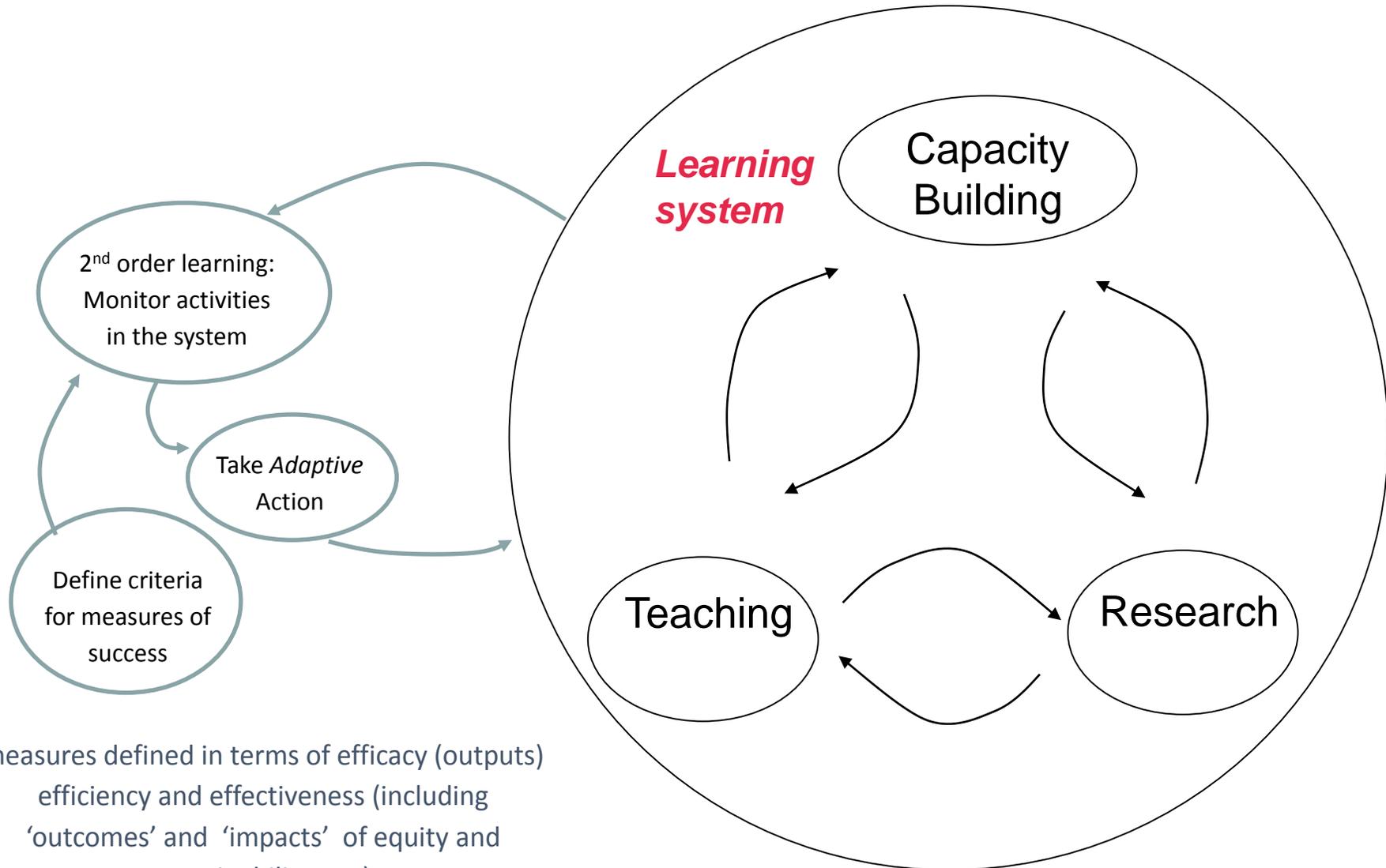
- Retaining high quality of existing provision (avoid technology fixes...VLE)
- Reconfiguring PG course production and provision (changing role of educators as gatekeepers to facilitators and co-learners)
- Changing marketing ethos from supply-driven to demand-pull
- Drawing on expertise and experiences of ALs
- Securing involvement of OU alumni (as mentors)
- Securing involvement of employer-partners



Towards a complex adaptive learning system



Applicable for STiP programme/ STEM Faculty/The Open University



measures defined in terms of efficacy (outputs)
efficiency and effectiveness (including
'outcomes' and 'impacts' of equity and
sustainability etc,)