
Insights from flipped practice: Technology Enhanced Learning programme for NHS Highland

Ann Tilbury & John MacMillan
Educational Development Unit



University of the
Highlands and Islands
Oilthigh na Gàidhealtachd
agus nan Eilean

Educational Development Unit
Aonad Leasachadh Foghlaim



Flipped classroom - definition

“Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.”

Flipped Learning Network (FLN)



Flipped classroom - background

- Active learning is the root of the flipped classroom.
- Wheeler 2015: The flipped classroom is based on the assumption that passive activities around acquiring knowledge should happen outside the classroom, freeing up class time for activities that encourage active learning and deeper knowledge.
- Fox and Pierce (2012) and Whitman Cobb (2016): flipping the classroom is an effective method to engage students in active learning.
- Tucker (2012): Method goes beyond delivering content. Engaging activities are key.



Image from Pixabay / CC0



Flipped classroom

- Fox and Pierce (2012): Flipped method increased deep learning and popular with students. Quality of interaction between tutors and learners was key (quality more important than quantity).
- Whitman Cobb (2016): Compared traditional face-to-face, flipped face-to-face and online. Flipped cohort achieved same results as traditional cohort, however the method for flipping was flawed. Repeating research with research informed resources would be useful.
- Butt (2014): Pre and post module surveys found increase in positive views of flipped classroom after it had been experienced.
- Post, Deal & Hermanns (2015): Some anxiety about the model, mostly about a lack of familiarity with technology. Findings also suggest students like having material online and felt class activities benefited.
- Findlay-Thompson and Mombourquette (2014): Students felt they had performed better and engagement was higher.
 - **Reasons for flipping must be explicitly stated to students;**
 - **Student buy-in is vital for the method to succeed;**
 - **Staff must be trained and prepared to use this method.**



NHS Highland programme: applying the flipped classroom

The demand

- Strategic drivers – national and organisational
- Shared challenges – supporting geographically distributed learners
- Enhancement of NHS Highland employee digital capacities
- Recognised experience and expertise of the EDU

The brief

- Design, develop and deliver a programme to introduce technology enhanced learning to NHS Highland multi-disciplinary professionals

The outcome

- 20 hour learning programme applying a flipped-classroom approach



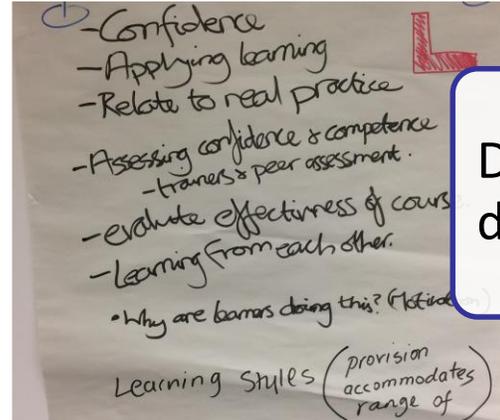
NHS Highland programme: from brief to delivery

January 2016



Brief

April 2016



Design & development

October – December 16



Cohort 1 delivery

April – June 17



Cohort 2 delivery



The NHS Highland programme: key aspects and rationale

Key aspects	Rationale
20 hours of learning (over 3 months)	Learner-centred
Flipped delivery	Optimizing opportunities for engagement (demonstration of approach)
Competence and confidence in technology enhanced learning	Key programme aims
Active learning	Embedding good practice in blended delivery
Collaborative learning	Creating a supportive community of learners in NHS Highland
Three broad topics covering learning outcomes: <ul style="list-style-type: none">• Planning• Sourcing and creating content• Delivering with technology	Identified as the three main steps to support progression from face to face to flipped classroom approach
NHS Highland's evaluation framework toolkit	Providing evaluation data in line with organisational requirements

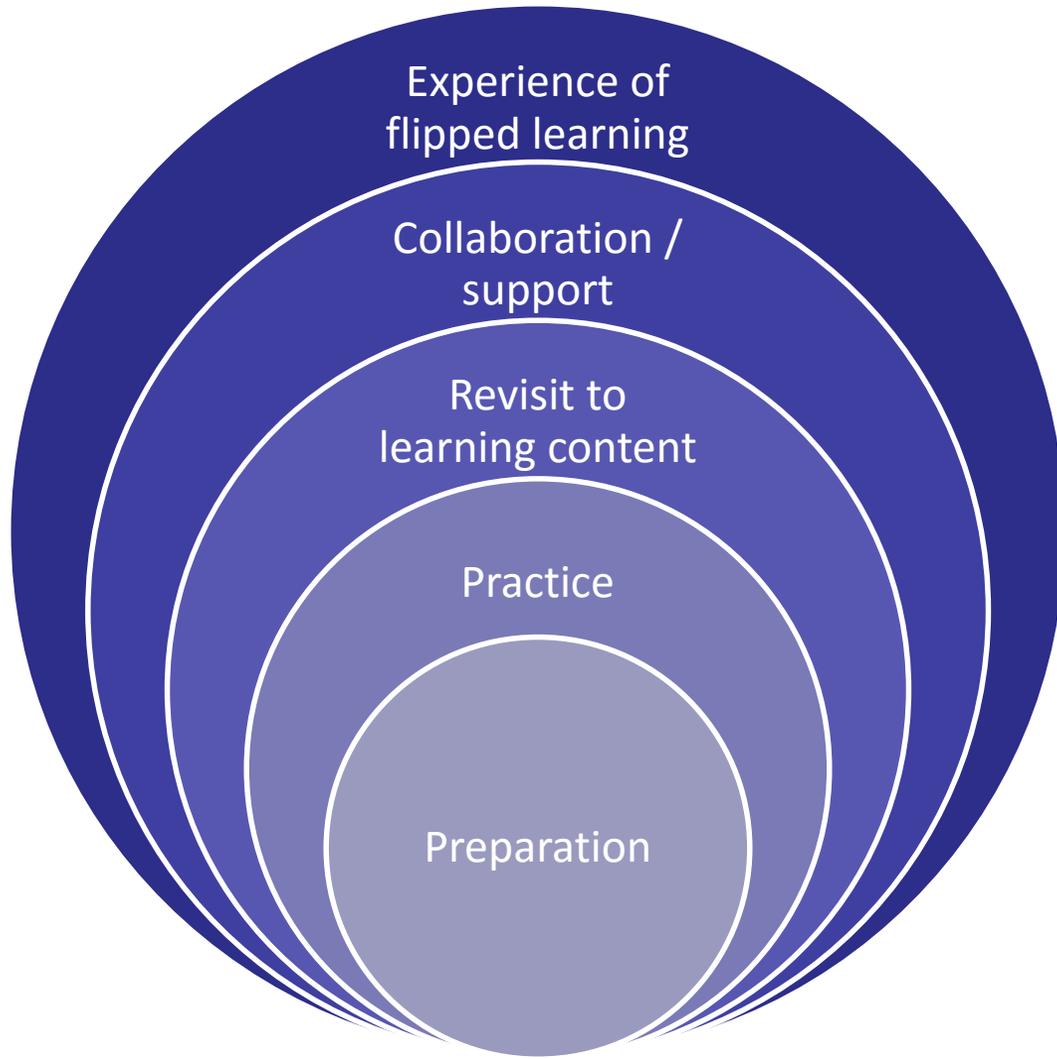


The NHS Highland programme: the learners

- NHS multidisciplinary healthcare professionals
- Including learning and development (L&D) responsibilities
- Required to explore and implement TEL in their L&D practice
- Some experience of videoconference delivery
- New to flipped classroom approach
- New to online learning



NHS Highland programme: benefits for the learner



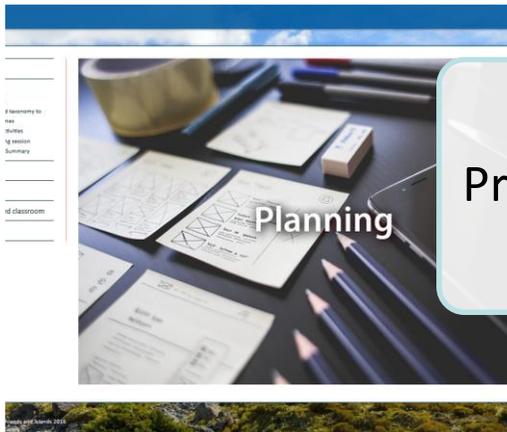
‘I’m so glad it’s been said that this is a learning exercise, as opposed to a perfecting exercise!’

“I really like your pdf in terms of layout and content. The first page with the picture and table of contents makes it attractive and invites you to read more. A good idea that I might use in the future, if that's ok?”



NHS Highland programme: in action

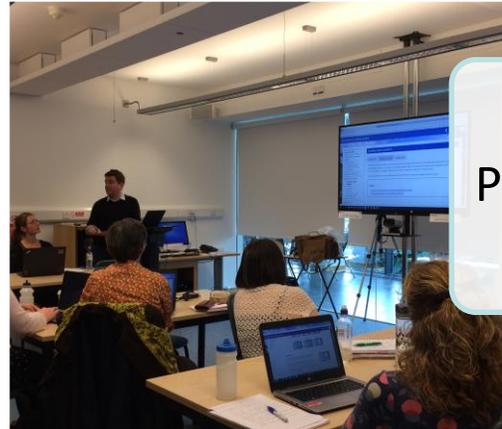
Online learning content



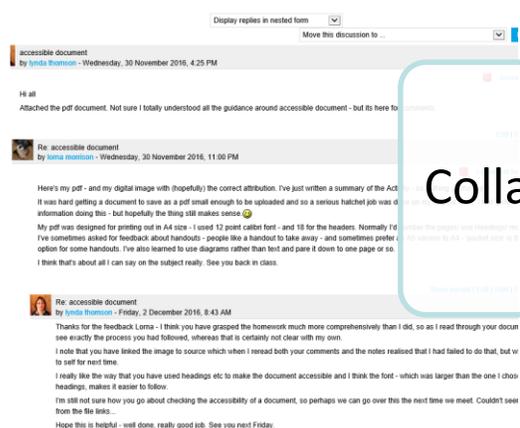
Workshop collaboration



Small group working



Online collaboration



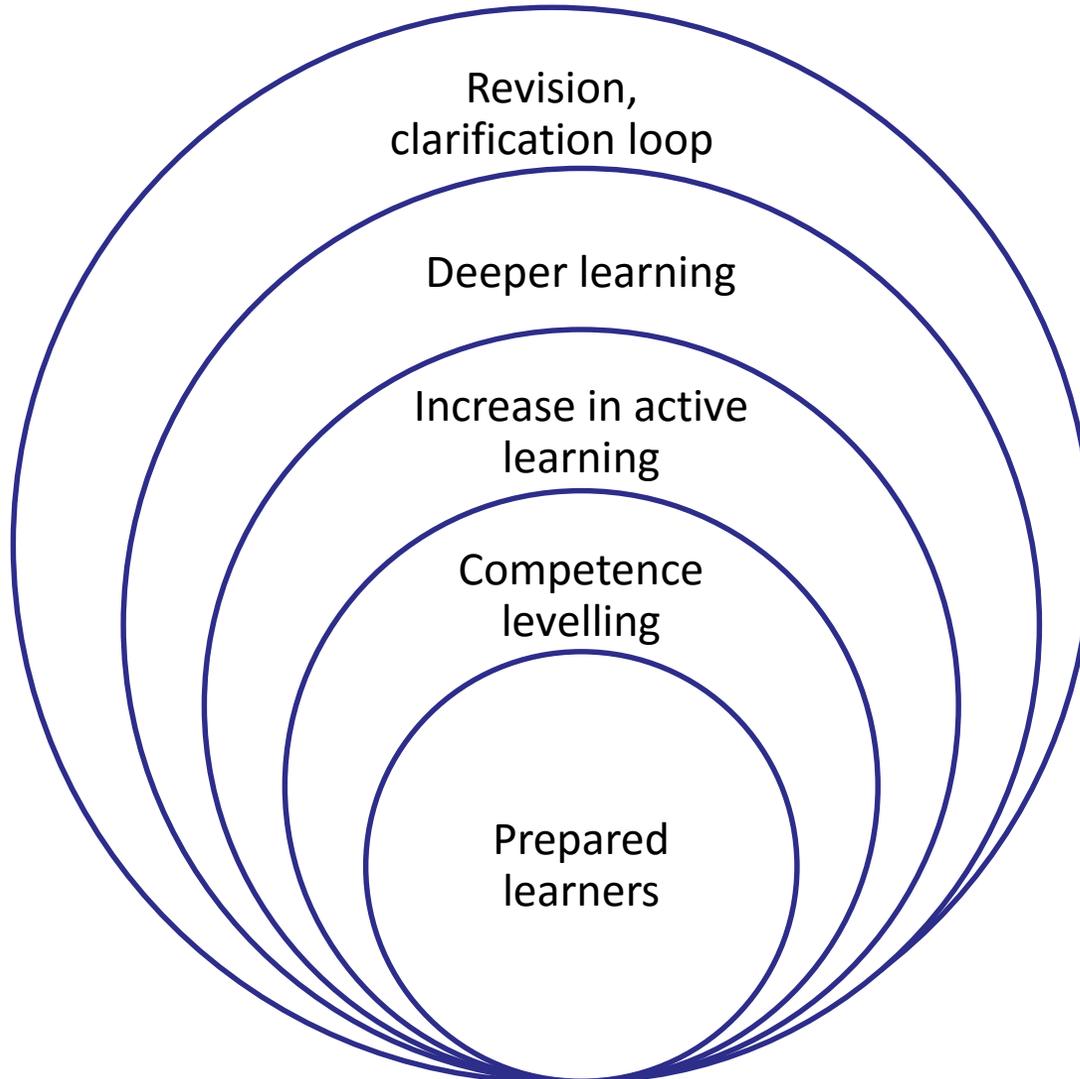
“Thanks for the feedback Lorna - I think you have grasped the homework much more comprehensively than I did I could see exactly the process you had followed, whereas that is certainly not clear with my own.

... I really like the way that you have used headings etc to make the document accessible and I think the font - which was larger than the one I chose for the headings”

Cohort 2 learner



Benefits of flipped approach – (L&D literature perspective)



45% agree that their face-to-face training actively builds on knowledge gained through online learning.

45% of the 'efficiency achievers' agree that their face-to-face training actively integrates technologies within the programme.

Towards Maturity (2017)

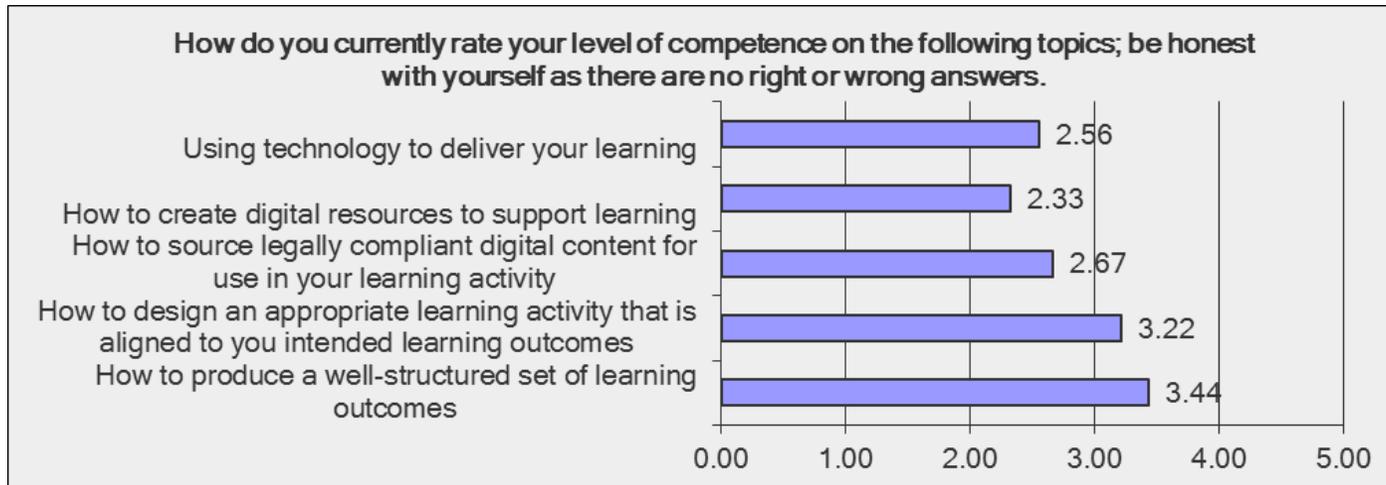


NHS Highland programme: opportunities for deeper learning

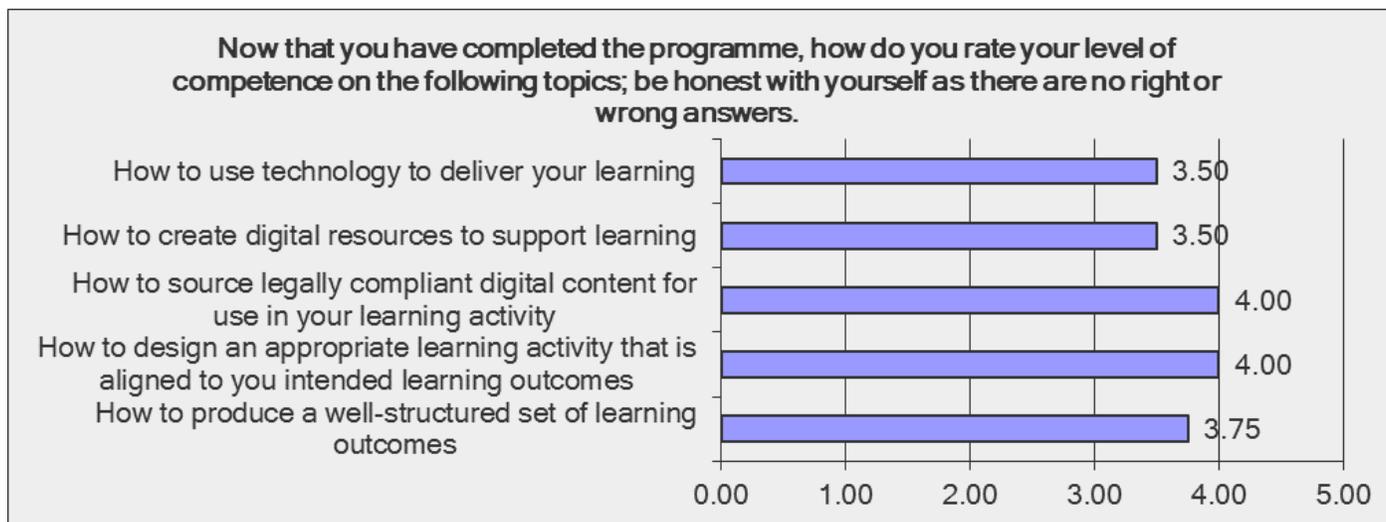
- “Creating video content learning session”:
 - Time reduced from 4 to 1 hrs following introduction of flipped approach
 - Learners achieved more, efficiently completing the tasks to specified level
 - Increased active learning
 - Increased collaborative learning
 - Time to plan applying learning to practice
 - Move towards more personalised learning



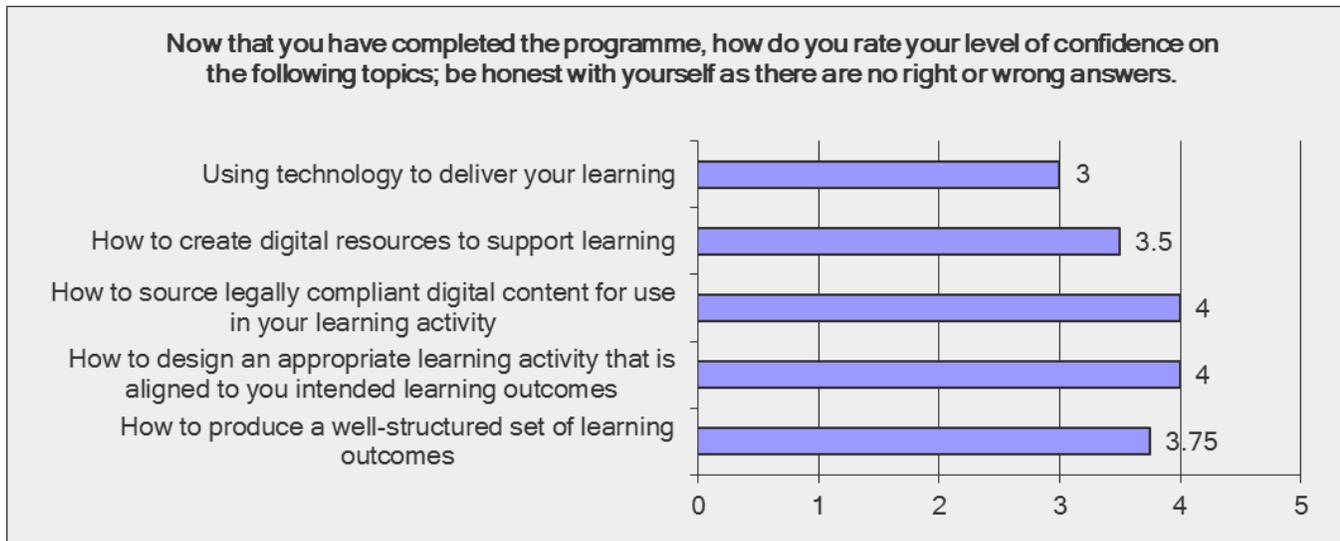
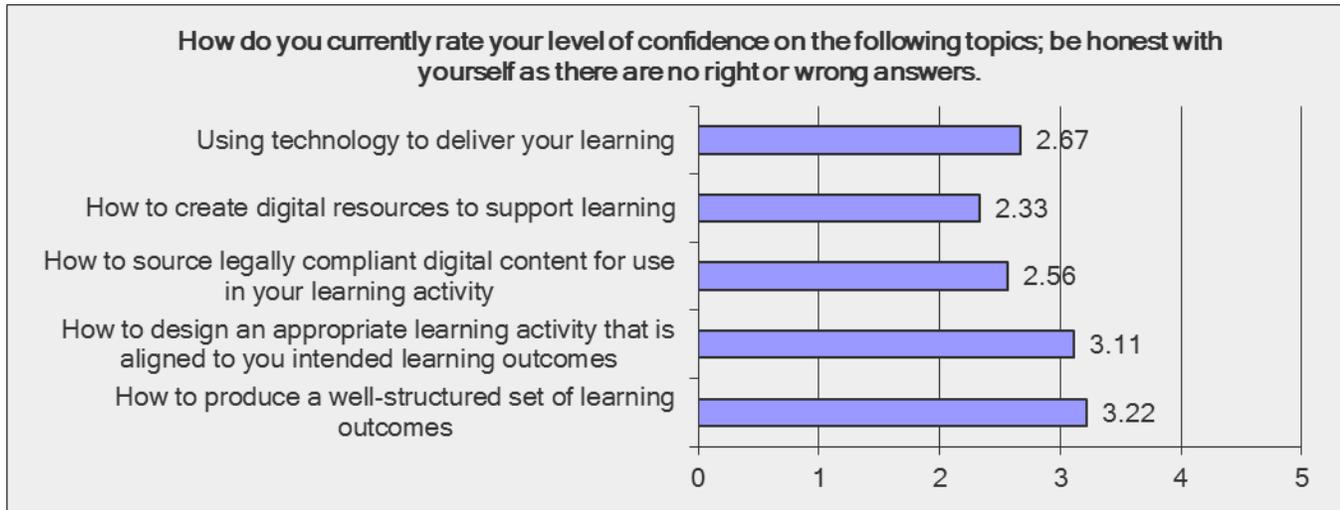
NHS Highland programme outcomes: levels of competences



Cohort 1: Oct – Dec 2016



NHS Highland programme outcomes: levels of confidence



Cohort 1: Oct – Dec 2016



NHS Highland programme: Challenges for learners and tutors

For learners

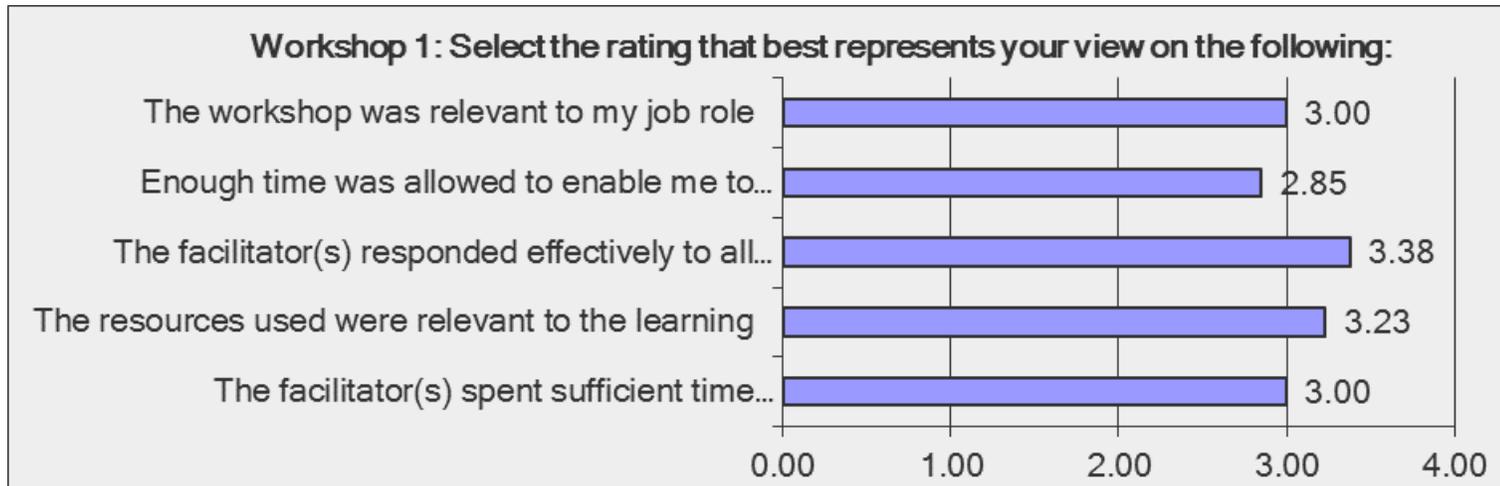
- Finding time to engaged with flipped content
- Digital competence and confidence
- VLE competence and confidence
- Adopting a flipped **mindset** approach to learning

For tutors

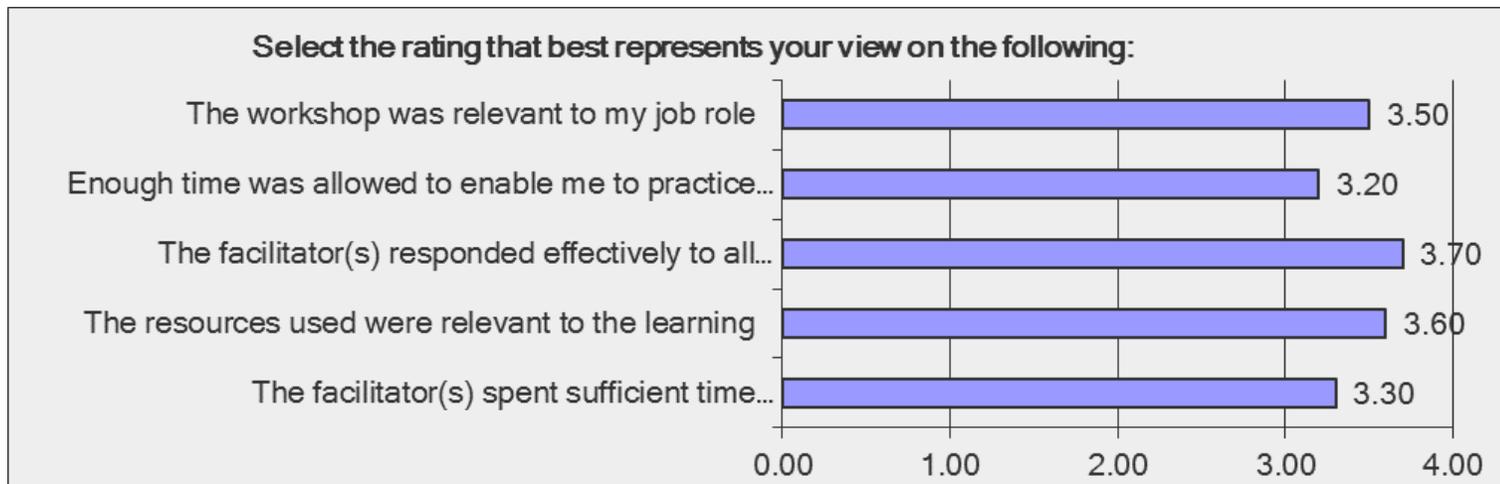
- ‘Front loaded’ preparation
- Increased preparation
- Critical role of learning design
- Changing learner **mindset**
- Activity based f2f learning



NHS Highland programme: effect of enhancements following Cohort 1



Cohort 1: Oct – Dec 2016



Cohort 2: Apr – June 2017



NHS Highland programme: future enhancements

- Further strengthen the ‘bridge building’ between classroom and online activities
- Add individual formative activities to pre-workshop learning to support greater levelling (prior to group participation)
- Provide learning resource to support self-management of learning ‘outside-of-the-workshop’.
 - [Preparing for assessment](#)
 - [Weekly timetable](#)



Lessons from NHS Highland programme - further application of flipped classroom approach

Support portal

- Using online learning content to building active learning sessions

Flipped video conferencing/webinars

- The high levels of video conferencing and webinars suits the flipped classroom
- VLE, Medial streaming server, and Open Educational Resources can be used to transmit content
- Synchronous communication (Blackboard Collaborate or video conferences) become activity focused
- Asynchronous communication support activities and build community of learners



Flipped video conferencing

- Clarke (2015): Where video conferencing forms a large portion of the formal contact time with students it is best suited to a dialogic model where students are active participants.
- Rennie and Morrison (2013): In order to make best use of any video conferencing it should be about activity and dialogue rather than emulating traditional one-way lectures in an online format. In addition, they suggest that teaching material that imitates traditional lectures in online situations would be best delivered asynchronously, with audio and video files highlighted as two particularly useful methods of doing so.



References and further reading (1)

- Bligh, D.A. (1998) *What's the use of Lectures* 5th edn. Intellect: Exeter
- Burke A, S & Fedorek B *Does “flipping” promote engagement?: A comparison of a traditional, online, and flipped class*. *Active Learning in Higher Education* Vol 18, Issue 1, 2017 Accessed online 9/6/17)
- Butts, A. (2014) ‘Student views on the use of a Flipped Classroom approach: evidence from Australia’. *Business Education & Accreditation* 6(1), 33-43.
- Clark, S. (2015) ‘Student Perception of Learning and Teaching by VC’ *Journal of Perspectives in Applied Academic Practice* 3(1), 61-83
- Findlay-Thompson, S. and Mombourquette, P. (2014) ‘Evaluation of a Flipped Classroom in an Undergraduate Business Course’. *Business Education & Accreditation* 6(1), 63-72.
- Fox, J. and Pierce, R. (2012) ‘Vodcasts and Active-Learning Exercise in a “Flipped Classroom” Model of a Renal Pharmacotherapy Module’. *American Journal of Pharmaceutical Education* 76(10), 1-5.



References and further reading (2)

- Guo, P. (2013) 'Optimal Video Length for Student Engagement' [Online] Available from <<http://blog.edx.org/optimal-video-length-student-engagement>>
- Herreid, C.F. and Schiller, N.A. (2013) 'Case studies and the Flipped Classroom'. *Journal of College Science Teaching*, 42(5), 62-66.
- Post, J.L., Deal, B. & Hermanns, M. (2015) 'Implementation of a flipped classroom: Nursing students' perspective'. *Journal of Nursing Education and Practice*, 5(6), 25-30.
- Prince, M. (2004) 'Does Active Learning Work? A Review of the Research'. *Journal of Engineering Education*, 93(3), 223-231.
- Rennie, F. and Morrison, T. (2013) *e-Learning and Social Networking Handbook: Resources for Higher Education*. 2nd ed. London: Routledge.
- Towards Maturity; *Unlocking Potential 2016 – 17 Learning Benchmark Report* (November 2016)



References and further reading (3)

- Tucker, B. (2012) 'The Flipped Classroom: Online instruction at home frees class time for learning'. *Education Next* 12(1), 82-83.
- Wheeler, S. (2015) *Learning with 'e's* Crown House Publishing: Carmarthen
- Whitman Cobb, W.N. (2016) 'Turning the Classroom Upside Down: Experimenting with the Flipped Classroom in American Government'. *Journal of Political Science Education* 12(1), 1-14.



Insights from flipped practice: Technology Enhanced Learning programme for NHS Highland

Ann Tilbury & John MacMillan
Educational Development Unit



University of the
Highlands and Islands
Oilthigh na Gàidhealtachd
agus nan Eilean

Educational Development Unit
Aonad Leasachadh Foghlaim

