Project Title:
Evaluation of a community partnership approach using open educational resources: Equate Scotland and the Returning to STEM BOC

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Executive Summary

According to research, an estimated 1 in 9 mothers, or 54,000 women every year, report being forced out of jobs following maternity leave and those that are coming back after maternity breaks or after a break, required support and interventions to help them with on-ramping (EHRC 2016; Greer, 2013; Hewlett 2008). For these women returners, support mechanisms also need to address issues such as building confidence and resilience, identity work to understand themselves and what they can offer, and ability to articulate their value to potential employers. Thus they require more than just an updated skillset to facilitate successful re-entry.

The Returning to STEM Badged Open Course was developed in 2016 to offer support for women returning to STEM careers after an extended break. This was a continuation of a succession of projects and initiatives by the OU to support women returners back into STEM employment and education.

Equate Scotland are the lead agency in Scotland working on equality and diversity in STEM. In partnership with Prospect (the trade union for professionals) and funded by The Scottish Government, they have been working on supporting experienced women back into the STEM sector since 2014. A curriculum partnership between Equate and the Open University was set up in 2016 to provide a collaborative programme for women returners, using a combination of the Returning to STEM BOC, together with additional support, career clinics and returnships, for a cohort of Scottish women returning to STEM after a career break.

This final report describes the project and evaluation of this blended learning model. The study used a mixed methods approach and was designed to take a holistic view of the integrated programme of activities, as well as individual elements of the blended learning model including the online course, career clinics and returnships, and the webinars. It also outlines the requirements and approach needed to address the demands and needs of different groups of learners at different life-course stages, taking into consideration gender and other diversity characteristics. Considerations about the impact of the project will be also addressed.

Aims and scope of your project

The main aims of the project were as follows:

- To evaluate a new model of blended learning using a Badged Open Course within a community partnership
- To evaluate the suitability of the BOC as a tool to support women back into employment after a career break
- To assess the feasibility of this blended model as a sustainable way to support women returners to STEM

The project also highlights more specific goals such as:

- evaluating the delivery of the STEM Returners BOC which formed part of an integrated programme
- examining the added value of online and face to face networking activities in the success of a programme designed for women returning to STEM after a career break
In order to achieve these goals, the activities adopted were:

- Survey of all participants consisting of 10 graded questions from strongly agree to strongly disagree, in addition to some open questions to clarify their responses
- Analysis of content of LinkedIn group
- Analysis of impact of webinars
- Analysis of interview with facilitators

The evaluation focused on several different data sources, namely the open comments in the survey responses, the written feedback from webinars and workshops, and the interview transcripts. A mixture of conventional and summative approaches to content analysis was applied. Quantitative analysis of the survey responses was also used to highlight the main issues and inform the qualitative analysis context.

A total of 40% of programme participants (16 respondents) participated in the survey, which took place between 20th – 31st July 2017. Although it was considered that the timing could deter people from responding, as it coincided with holidays, there was still an appropriate response aided by encouraging prompts and remonders by the programme’s tutor and Equate Scotland’s project lead. This personal touch saw an increase in responses, which suggests that the personal contact and trust built during the programme are of considerable importance.

The LinkedIn group was underutilised as a forum, so we decided to study the interaction in the webinars as well as between the deliverers and learners to gather feedback and understand the success of the process and the outcome of the programme. Reflection on the use of webinars and their impact was therefore incorporated in the study.

Findings

The findings are categorised below according to the learning methods used (BOC content and delivery, career clinics and returnships, LinkedIn group and webinars) as well as addressing the themes of employability and barriers to return.

a) Impact of learning according to methods used

BOC: (Fig 1-3) 81.5% of respondents expressed that they were satisfied with the course with 44% strongly agreeing and 37.5% agreeing, with the majority of those expressing confidence in their ability to succeed in returning to work (fairly confident 31%; very confident 37.5%).

‘It's been better than I’d imagined and has encouraged me to look seriously at why I don’t have a job in my sector and what I can do to gain the confidence needed to work in a stem role’.

‘The course has been useful in allowing me to reflect on what roles I have enjoyed during my career and therefore where to focus my goals and how/where to update my skills. It has also given me a bit more confidence to ask about the different ways of flexible working when I do come to apply for a new role’.

1 Template questionnaire is included as an appendix at the end of this report
Reflections on the effectiveness of the course content, also informed conversations that took place during the Webinars as will be presented later on in the report.

In addition, 38% of the respondents agreed or strongly agreed that community had supported their learning, however a similar number (37%) expressed a neutral opinion, while 25% did not think the community had impacted on their learning.
Career clinic and returnships: (Fig. 4-5). Over 90% of the participants agreed that the career clinics had been valuable in providing individualised support in addition to the online course, specially in confidence building, providing focus and clarity in their future pathways.
‘[the career clinic] helped highlight the areas of my strength and how to focus on my short and long term goals. Overall, it increased my confidence in my positives and skills that will enable me return to work’.

When considering returnships, although at the time of the questionnaire not all participants had been successful, the responses illustrate momentum as well as clarification of what is required and what the participants need to comply with to be successful. Issues such as distances from home, preparedness, confidence and suitability are the most common themes in this area.

LinkedIn group and webinars: The Linked In group was not used as frequently as expected - problems with registration and usability were identified as causes. It however provided a good source of information and it contributed to building the sense of community in conjunction with additional webinars and messages from the facilitators.

'I found great support from the women running the programme, making me realise my strengths and improve my professional profile. I finally got a job!"

The webinars fulfilled the space left by LinkedIn in community building. It provided a platform to create a social connection, share experiences, provide reassurance as well as further technical support. Participants felt better informed about the course, were more aware of how to maximise the resources available, raised their confidence, and, crucially, it supported them in becoming more active in searching for jobs and continuing with the course and the opportunities on offer. The webinars served as a reminder of that renewed sense of confidence and an endorsement of the learned tools to become more resilient.
The webinars were delivered as a flexible response to a need for creating the sense of community, which was not achieved through the planned mechanism of LinkedIn. Although some participants benefitted from the general networking opportunities that LinkedIn offers, the LinkedIn group did not provide the platform for creating the expected networking opportunities.

The first two webinars (July and September) were scheduled for 1 hr. Participants reported that 1 hr was not enough which led to conducting the next two seminars (October and December) for 1.5 hrs.

The last seminar had also a different approach as it was mostly dedicated to recent joiners to the programme. Thus, this webinar was more interactive and focused more on touching base with the participants regarding which point they were at, skills required and strategies for returning to work.

Thus, the success of the webinars responds to that flexible attitude of Equate and the OU tutor to listen to and observe the behaviour of the participants. Participants were very complimentary not only about the content in itself but also about the opportunity to listen to other people’s experiences, which supported them in their journey.

In this sense, the opportunity to interact with other participants during the webinars was questioned in the first webinar (July) as it was considered that in terms of confidentiality, some participants might be constrained or not be interested or able to share their experiences. In practice, participants were keen to listen to others and comment on their achievements and/or support them when opportunities had not worked out.

This is also related to the recording of the sessions. Although it is fair to consider that recording might deter some people from participating, there were also benefits as people could go back to the recording to refresh their minds, and/or listen to it at a later stage and be more enthused to participate in future webinars.

Some of the learning points from the participants after attending the webinars were: [to] ‘Continue to nurture self belief via networking / events / reflection’; [to]’Write elevator pitch. Send CV to past interviewer for constructive criticism’ and [to]’Be able to transition: close doors which are not useful to enable space for new ones’.

The flexibility needed to adapt the content of the webinars and clinics, led to a change and focus in the programme, starting with writing CVs and covering letters, moving on to interview techniques and then how to reflect on performance following an interview and bounce back if unsuccessful; topics of particular interest to the learners and directly related to their particular journeys. Responses to individual queries also often referred participants back to a specific section of the BOC, to give consistency to the delivery and meaning to the different elements that conformed the programme.

b) Employability and barriers to return (Fig. 6)

The majority of the responses suggested that the programme had the intended impact in that participants were actively looking for work, and that the programme had supported them to
adopt a more active role in seeking STEM employment opportunities commensurate with their experience.

‘I have felt confident to apply for two roles in the sector I have chosen and have received feedback from one employer (somewhere I had previously applied to but not heard any feedback from) which was that they had candidates that were more closely suited to the role but welcomed me to apply to future roles within their company. I would not have been confident enough to apply previously’.

The most relevant barriers were the need to retrain, build networks, and attend to childcare commitments. It is worth illustrating that ‘reduced confidence’ is not in a high rating, which reinforces the opinions gathered throughout the survey.

‘I do suspect that, having been away from STEM for such a long time, I would be unlikely to be selected for any STEM job. This is why I believe that the projects that Equate offers are absolutely key to getting back to work’

Individuals were aware of the barriers but recognised the value of the programme in supporting them to return.

The findings thus suggested a set of concluding remarks:

• Blended learning approaches need to be flexible and adaptable to be able to incorporate the needs of different groups of learners, and to take account of gender and other diversity characteristics to facilitate effective learning and an affective learning climate.
• For an effective learning intervention, BOCs need to be combined with synchronous learning events such as webinars, to develop additional skills such as networking and confidence.
• The project suggests that there is scope for a model for community organisations to be involved in the delivery of BOCs where a set of features, such as specialist knowledge, flexibility, motivation techniques, referrals to other appropriate services and providers and resources to host face to face meetings and other measures, are essential to promote engagement and collaboration.

As potential areas for further development of the model, it would be recommended that the delivery of all online elements via a single portal using the same platform to access all information and interactive elements. This could also include an e-portfolio tool through which the participants can follow their personal as well as their professional progress during the programme, and an informal online discussion forum to replace the formal LinkedIn group.

**Impact**

a) Student experience
As immediate impact of the project the women returners programme successfully supported over 60% of the pool of 40 women returners into placements, full time work in STEM or to pursue further STEM qualifications. The successful outcomes reinforce the conclusion that even within a small group of relatively similar learners, one size does not fit all, and that with a range of ways to engage with content and support, participants can personalise their own learning and benefit from whichever of the components are appropriate.

In terms of the contribution of the project towards increasing student success, with the BOC at the core of Equate Scotland’s blended learning programme, participants were able to enrich their current knowledge, gain accreditation and develop their own individual pathways back into STEM employment. “In a nutshell, the programme’s got me from, in the beginning, not knowing where to start, to now, in a couple of week’s time, I’m going to start a 6 month placement.”

The model of blended learning in a community partnership could be adapted for other under represented groups, thus benefiting students who have not yet directly been involved in the project.

b) Teaching
The publication of the journal article has enabled OU colleagues as well as external scholars to learn from this model. We hope to be able to roll the mode out to a wider audience through further funding.

c) Strategic change and learning design

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The Returning to STEM BOC and community partnership model has been cited as an example within the OU’s Women in STEM campaign – it is frequently cited in policy responses and funding bids as an example of the university’s commitment to equality and diversity. The OU in Scotland has included this as an example of good practice in their Gender Action Plan.

d) Any other impact
We are still actively seeking funding to extend the model to other areas – for example a bid was submitted to Government Equalities Office Returners Fund in October 2018 (unsuccessful). However the search for funding is continuing with the help of the OU Development Office

List of deliverables


References


Herman, C. (2015) Rebooting or rerouting: mid-career transitions of women returning to science, engineering and technology Gender Work and Organisation 22(4), 324-338


http://www.sagepub.com/dqr4/study/Student%20resources/Chapter%2014/Hseih%20%20Shannon.pdf [accessed in July 2018]


University approval processes

As the participants were taking part in a Badged Open Course, they were not registered as OU students. Therefore no SRPP approval was sought. Instead consent was gained from the participants via the partner agency Equate who were responsible for recruiting them to the programme. This included consent for their data to be shared with the OU researchers, for quotations to be used in publications, and for filming to take place at face to face events. All consent and data details are held at the partner agency Equate.
Appendices

Appendix A – Questionnaire Template

Dear All

Thank you for sparing a few minutes to answer this survey. The aim of this mid-course survey is to find out how you are progressing with the Women Returners Programme, with a particular focus on the Returning to STEM Badged Open Course. This survey is jointly conducted by Equate Scotland and the Open University.

All information provided would be treated with confidentiality.

Thank you very much. We wish you all the best of luck for the rest of the Programme and look forward to catching up with you at a later stage.

Best wishes

Dr. Rosaria M. Gracia, Evaluator (OU) and Lesley Macniven (Equate Scotland)

Follow up from the pre-workshop questionnaire

Was this your first experience of studying an online course? Yes/No

How many hours per week have you spent on this course? Was this more/less/equal to what you expected? (If more, please explain)

Before this course had you ever used a social networking site for work, like LinkedIn? Yes/No

<table>
<thead>
<tr>
<th>Rating</th>
<th>1 Not confident at all</th>
<th>2 Somewhat confident</th>
<th>3 Neutral</th>
<th>4 Fairly confident</th>
<th>5 Very confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>How confident are you about studying another online course in the future?</td>
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<tr>
<td>How confident do you feel about social networking being a useful tool for helping you return to work?</td>
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<tr>
<td>How confident are you about returning to work?</td>
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</table>

In the pre-workshop questionnaire, we asked you what your top 5 barriers to getting back into STEM work. Have your views changed since starting this course? Yes/no

Please indicate your current top 5 barriers in order of priority.

- Out of date skills
- Lack of networks
- Reduced confidence
- Don’t have a CV
- Childcare commitments
- Other caring commitments
- Other please specify...

### Overall impression of the BOC course

<table>
<thead>
<tr>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Strongly disagree</td>
</tr>
<tr>
<td>1 Originality</td>
<td>I found the course interesting and new</td>
</tr>
<tr>
<td>2 Excellence</td>
<td>The materials in the course reflected what I needed</td>
</tr>
<tr>
<td>3 Concept</td>
<td>A course for returners to STEM is really valuable to me</td>
</tr>
<tr>
<td>4 Presentation</td>
<td>The course is well produced and presented</td>
</tr>
<tr>
<td>5 Distinctiveness</td>
<td>it is different from courses I’ve done before</td>
</tr>
<tr>
<td>6 Challenge</td>
<td>it is thought-provoking</td>
</tr>
<tr>
<td>7 Captivation</td>
<td>it is absorbing and holds my attention</td>
</tr>
<tr>
<td>8 Enthusiasm</td>
<td>I would do another course like this again</td>
</tr>
<tr>
<td>9 Impact</td>
<td>it is important that the course is happening</td>
</tr>
<tr>
<td>10 Relevance</td>
<td>The course content was highly relevant to me</td>
</tr>
<tr>
<td>11 Rigour</td>
<td>The content was current, up to date and thoroughly researched</td>
</tr>
<tr>
<td>12 Enjoyment</td>
<td>I enjoyed doing the course</td>
</tr>
<tr>
<td>13 Organisation</td>
<td>The course is well organised and easy to follow</td>
</tr>
<tr>
<td>14 Responsiveness</td>
<td>The course and the events respond well to the needs of the participants</td>
</tr>
<tr>
<td>15 Effectiveness</td>
<td>The following tools and skills taught</td>
</tr>
</tbody>
</table>
were effective in preparing me for the placements and job hunting

Reflection tools: Spider diagrams, lifelines, time mapping

Further readings

List of organisations

Podcasts

Progression courses (e.g. MOOC, week 3)

16 Usefulness

Identity work section: CV and digital footprint

Assessed pathway: reflection (life line), goal setting and action plan

Guided development and structured feedback

17 Community

Working in a group supported me in my learning during the course

18 Satisfaction

Overall I am satisfied with the course and the resources

- Please use this space to complement any of the opinions presented above. If you have comments for more than one variable, please use the number of each variable. Thank you (e.g. 1. Originality:.......; 14. Responsiveness.......)

- Did the course match your expectations? Yes, no, please explain briefly

Specific issues: Here are some questions specifically about your use of LinkedIn for this course.

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<th>Description</th>
<th>Rating</th>
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<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Overall how easy did you find it to follow the instructions for setting up your profile?</td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>How easy did you find it to access the Equate Returners LinkedIn group?</td>
<td>Disagree</td>
</tr>
<tr>
<td>Regarding quizzes and badges:</td>
<td>Nor disagree or agree</td>
</tr>
</tbody>
</table>

The timing was appropriate in the course
They measured what expected
They were useful to reinforce the knowledge acquired in the week

Please use this space to expand in any of the issues raised in the questions above, if required

• How often did you visit the LinkedIn group?

If you are using any other social media platform/s such as LinkedIn- for job seeking, communicate with others, etc- please state whether they are more appropriate for this area of work and why

Career Clinic: Here are some questions specifically about your use of our Career Clinic service.
• Have you participated in a career clinic since joining the Programme? Yes/No
• If YES, please answer the following questions:

<table>
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<tr>
<th>Description</th>
<th>Rating</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>The career clinic was a good use of my time</td>
<td></td>
</tr>
<tr>
<td>The career clinic exceeded my expectations</td>
<td></td>
</tr>
<tr>
<td>The career clinic provided what I needed personally in addition to the online course</td>
<td></td>
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</tbody>
</table>

• What was the most useful aspect(s) of the career clinic?

• If NO, please answer the following questions:

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<tr>
<th>Description</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

I plan to have a career clinic in the next 2 months
I do not plan to have a career clinic

- Please use this space to expand on any of the issues raised in the questions above, if required

**How work-ready do you feel now?:** Here are some questions specifically about how ready you feel to apply for a placement and/or return to work in a permanent role.

<table>
<thead>
<tr>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Strongly disagree</td>
<td>2 Disagree</td>
</tr>
<tr>
<td>3 Nor disagree or agree</td>
<td>4 Agree</td>
</tr>
<tr>
<td>5 Strongly agree</td>
<td></td>
</tr>
</tbody>
</table>

| I have applied for one of the placements advertised                       |        |
| I have seen a placement in my area of STEM but did not feel ready to apply |        |
| If a placement in my area of STEM came up in the next two months I would be likely to apply |        |
| Since joining the Programme I have been actively seeking a permanent role |        |
| Since joining the Programme I have applied for a permanent role           |        |
| I don’t feel ready to apply for a placement                               |        |
| I don’t feel ready to apply for a permanent role                          |        |

- Please use this space to expand on any of the issues raised in the questions above, if required

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