**Bernie O’ Donoghue, PhD student, University of Limerick**

**Study:** *Literacy and Numeracy for Mathematics Teaching in Ireland*

**Interview:** *Telephone Interview P1, post-workshops*

**Date:** *23rd March 2017*

*Please note:*

1. ***R*** *represents the initial for the researcher who conducted the interview and* ***ST1*** *is the identifier for the participant who was interviewed.*
2. *The green theme colour identifies the 5 key questions asked which include the following themes/topics:*

Question 1: Personal Learning, 00:00:04

Question 2: Learning in Action, 00:03:20

Question 3: Relevance, 00:03:40

Question 4: Addressing participant needs, 00:05:12

Question 5: Suggestions for improvement, 00:07:25

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| **Q1**  **R**  00:00:04 | Has your understanding of Literacy and Numeracy for Mathematics teaching changed as a result of  taking these workshops? |
| **ST1** | Definitely. It opened up my eyes to a few different areas that we hadn’t been introduced to before. It  was great linking the whole course up: linking numeracy with the curriculum and all the  different strands, the aims of the syllabus. I thought that was really helpful. In terms of numeracy, I’m  still a bit unsure what numeracy actually is but you gave us some great ideas like I remember the thing  you said for the homework with the inequalities, I really liked that. It was good. I think it was more  helpful in terms of literacy than numeracy. But I just think with numeracy, I’m still trying to get my  head around it in terms of how to pin it down with maths, if that makes sense. |
| **R** | Do you think the workshops improved your content knowledge of maths in anyway? |
| **ST1** | Absolutely. 100%. I learned so much. Even some of the things you were going through I was actually  teaching at the time and it was so, so helpful. |
| **R** | Could you give a specific example, say, maths you thought you were comfortable, that maybe a different perspective was offered? |
| **ST1** | The example you did with the mean where you showed about making it fair, that was really good. I remember as well the similar triangles, I hadn’t really made the connection that it is a ratio type of question and I had actually been teaching that. I hadn’t really emphasised that to them so that was really useful. |
| **Q2**  **R**  00:03:20 | Could you give an example of literacy and numeracy in your maths classroom? |
| **ST1** | Yes, I suppose. I do always try and get what their understanding is of the key word and what does the word mean outside of the maths classroom and what does it mean in the maths classroom. Today, something came up, intervals, we were doing grouped frequency situations. I asked ‘what does the word interval mean to you’ and someone said ‘in the middle of a show or a break’ and we discussed it then in relation to maths. I suppose that’s exploring literacy and then numeracy, I don’t know, I’m still unsure. |
| **Q3**  **R**  00:03:40 | Was the content of the workshops relevant to your current practice and studies? |
| **ST1** | It was really, really useful. I really liked it in terms of the fact you are a teacher and you’re in the classroom and it was really nice to have it coming from someone who is teaching day in day out. I think what you went through was practical. |
| **R** | Maybe you have answered the next question but maybe you might like to add to it: did the content of the workshops help you to prepare for the professional role of a mathematics teacher in Ireland? |
| **ST1** | Absolutely. It’s really the last few weeks and working with **LM** as well that has opened my eyes up to the fact that Project Maths is so different to what I did myself and you definitely got it across how the syllabus is different and that was really, really useful. It has changed me even as a maths teacher, how I go about things, developing that conceptual understanding. Obviously you need the procedural bit as well but it really has opened my eyes to how the course is different and what they are actually trying to achieve. |
| **Q4**  **R**  00:05:12 | When I did the pre-workshop focus group interview I asked the participants: ‘in designing this workshop what would you like to see in it’ and what came back was: ‘The lesson plan for literacy made sense’ but there was general agreement that numeracy lacked clarity. Did the workshops help to address that issue - make numeracy clear? Even though it is not 100% clear for you was there any bit of clarity? |
| **ST1** | It was really good when we did that linking up exercise. I just think I actually need to sit down myself and go over exactly what we did to really drill it into my head. We did so much work with **LL** on the literacy that it really did go in and when you have twelve hours of it! The Goos model is helping but I actually need to put it into my lesson plans more. I think you did actually go through it, it’s a matter of myself sitting down and really looking at it and going through the different things. |
| **R** | Need#2: the participants wanted specific examples of literacy and numeracy, naming it and describing  literacy and numeracy skills. Did you think the workshops did that? |
| **ST1** | Absolutely. You gave concrete examples of what you do in the classroom. It was really useful. |
| **R** | Need#3: And the third need was ‘how to facilitate Problem Solving’. But the last workshop, which I know you couldn’t attend, had a big spotlight on it. But what I tried to do throughout the various workshops was to convey that Problem Solving is an important part, it is almost a way the maths classroom needs to work, did that message get across? |
| **ST1** | Absolutely. It was really, really helpful. Both yourself and **LM** have shown us the need for problem solving and definitely you got it across how to go about it. |
| **Q5**  **R**  00:07:25 | This is the last question. Is there anything that should be covered on a module on Literacy and Numeracy for mathematics teaching, anything else that you would like to see included? |
| **ST1** | You need the workshops to go on for longer. You got through so much, it would have been lovely if we had more exposure to it. It would go into our heads a little bit more then, if it was run over a longer period. |
| **R** | Would you have any preference to have this kind of experience in first year as opposed to doing it in second year? |
| **ST1** | Yes. Those practical examples really helped. Even the thing you showed, the random integer button, I used that when I was doing sampling. All that was so, so practical. A lot of the stuff you did, I actually ended up doing it inside of the classroom. It was so lovely to have a teacher to come in and show us things that we can literally go into our classrooms the next day. It would have been really, really beneficial to do it last year as well. |
| **R** | Thank you. |

**Bernie O’ Donoghue, PhD student, University of Limerick\_**

**Study:** *Literacy and Numeracy for Mathematics Teaching in Ireland*

**Interview:** *Telephone Interview P7, post-workshops*

**Date:** *22rd March 2017*

*Please note:*

1. ***R*** *represents the initial for the researcher who conducted the interview and* ***ST7*** *is the identifier for the participant who was interviewed.*
2. *The green theme colour identifies the 5 key questions asked which include the following themes/topics*

Question 1: Personal Learning, 00:00:28

Question 2: Learning in Action, 00:03:15

Question 3: Relevance, 00:03:40

Question 4: Addressing participant needs, 00:05:12

Question 5: Suggestions for improvement, 00:07:25

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| **Q1**  **R**  00:00:28 | Has your understanding of Literacy and Numeracy for Mathematics teaching changed as a result of  taking these workshops? |
| **ST7** | Absolutely, yes. To be honest when I first started I just thought that doing maths was numeracy  relating it to real life but in fairness, you really hit the nail on the head by showing us exactly what it is  and bringing in the Junior Cert syllabus and Goos numeracy model and relating the two so my eyes  have been open in that sense and I do understand it much more. |
| **R** | Do you think the workshops improved your content knowledge of maths in anyway? |
| **ST7** | Absolutely,…… because I was actually covering statistics at the time, when you were  going on about averages and the mean, the mode and the median. When you said: ‘what is  the mean?’ and everyone just said the ‘average’. I did that in my class and I just took that as the  answer and you said ‘no’ it is equal averages, it is equal across the board so I went in and I actually  asked again the kids the next day ‘what is the mean?’ and they said the average and I asked ‘what does  that mean?’ and they couldn’t answer me. So we talked about equal averages because we were  coming onto the interquartile range anyway within stem and leaf plots and it made a lot of sense to  them. That was brilliant. But yeah, definitely, my content knowledge has definitely improved, a 100%. |
| **Q2**  **R**  00:03:15 | Could you give an example of literacy and numeracy in your maths classroom? |
| **ST7** | I suppose key words, for literacy anyway, is a big thing especially because I am covering geometry and sets at the moment. They have to know and identify the key words. Numeracy, the concepts and getting them to develop the key concepts and that is something **LM** has been highlighting all year. I’m still not a 100% sure but that is what I do. |
| **Q3**  **R**  00:03:40 | Was the content of the workshops relevant to your current practice and studies? |
| **ST7** | Absolutely. One of the main things we asked at the start of the year was how to approach exam  questions. I thought your use of exam questions and explaining about the misconceptions getting into  why those questions are asked really helped because that’s going to be ahead of us next year. We’re  only teaching classes outside of exams but the reality of it is we could get landed with a third year  maths class next year. |
| **R** | Maybe you have answered the next question but maybe you might like to add to it: did the content of the workshops help you to prepare for the professional role of a mathematics teacher in Ireland? |
| **ST7** | Absolutely. 100%. I have all your stuff kept in a folder. How to approach an exam question and how the kids might see the different ways of answering a question and what they might take from an exam question. Going back to the averages example, even your use of resources, you were very visual as well. It inspired me to be more visual within a classroom. We are coming onto probability soon and I will be doing the random sample on the calculator you showed us. That was brilliant. . |
| **Q4**  **R**  00:05:12 | When I did the pre-workshop focus group interview I asked the participants: ‘in designing this workshop what would you like to see in it’ and what came back was: ‘The lesson plan for literacy made sense’ but there was general agreement that numeracy lacked clarity. Did the workshops help to address that issue - make numeracy clear? |
| **ST7** | Yes. For each of the different topics we are covering, you can go to the syllabus and even you have an example of where the syllabus ties in with the Goos model of numeracy and it is very clear. I think my numeracy section has lengthened because I am able to tie in the Junior Cert syllabus and the topic I am doing. |
| **R** | Need#2: the participants wanted specific examples of literacy and numeracy, naming it and describing  literacy and numeracy skills. Did you think the workshops did that? |
| **ST7** | Literacy is fine. It is engaging in discussion and everything else. My understanding of numeracy is concepts and linking all the different concepts together and working on the skills. Some examples, yes, but I think it is still a bit airy fairy. My definition of numeracy has improved and my incorporation of it into the lesson plan, but I still wouldn’t be 100% sure, I would be more 80% and where I was at was 50%. |
| **R** | Need#3: The third need was ‘how to facilitate Problem Solving’. The last workshop was about  that, but what I tried to do was to integrate problem solving throughout. But the last workshop, which  I know you couldn’t attend had a big spotlight on it. But what I tried to do throughout the various  workshops was to convey that Problem Solving is an important part, it is almost a way the maths  classroom needs to work, did that message get across? |
| **ST7** | Absolutely. Your activities were focused on problem solving and especially the group work. I was  looking at an example here, an application of Theorem 13, and a lot of us struggled with it, finding the  distance between the two trees, and the one with cubes. Your methods of how to tackle the different  problems and how to teach in that way as well and seeing all the different methods that students  could come up with, that was another good way, as well. |
| **Q5**  **R**  00:07:25 | This is the last question. Is there anything that should be covered on a module on Literacy and Numeracy for mathematics teaching, anything else that you would like to see included? |
| **ST7** | No. In fairness, your workshops were absolutely brilliant. It was a shame they were so short. I would have loved them for the whole year. I do think I learned a lot. I think you covered everything and it was really enjoyable. |
| **R** | Would you have any preference to have this kind of experience in first year as opposed to doing it in second year? |
| **ST7** | PME1 and PME2. I think it should be a continuation. |
| **R** | Others were saying about having a subject specific module on literacy and numeracy was better than having a generic one…. |
| **ST7** | Absolutely. In the generic one, they don’t talk about maths. They talk about languages and the more wordy subjects. Even in the numeracy module, maths was tipped on. We had an assignment and I didn’t do it on maths because I didn’t understand it. |
| **R** | If you had done this module first do you think you might have done it on maths? |
| **ST7** | Absolutely. Definitely. I can see how the syllabus is key to incorporating numeracy within the classroom as well as focusing on the skills. |
| **R** | Thank you |