Exploring 'academic depth' in Higher Education

A collaborative evaluation of a visual method for facilitating information discernment for HE students from varied disciplines

Alke Gröppel-Wegener[1], Lesley Raven, Helen Bowstead[2], Katy Vigurs[1] and Geoff Walton[3]

[1]Staffordshire University;
[2]Plymouth University;
[3]Northumbria University

Corresponding author: a.c.groppel-wegener@staffs.ac.uk

Abstract

Information discernment is an important skill that is part of studying in Higher Education, although it often seems that students might not be aware of this crucial part of academic practice. This paper presents the evaluation of a visual method for introducing students to the provenance of secondary sources, using the metaphor of sea creatures living in an academic ocean. The same resources were used as a starting point for sessions delivered to a number of programmes in different disciplines in three different HE institutions in the UK at different academic levels. The findings discussed here introduce the different perspectives of the tutors who led the sessions, providing an insight into potential challenges and opportunities of using this visual concept to introduce academic practice to students in art, media and design, communication and public relations, education, as well as international students. The conclusions drawn from this episodic overview show that while there was some polarisation, overall a visual approach seemed to have potential in assisting students in building their academic literacy skills. Furthermore, it was the facilitation of a discussion of provenances of sources that seems most important in this endeavour.

Key words: academic literacy, information discernment, information literacy, source evaluation, study skills

ISSN: 2044-3315

Introduction

Establishing a provenance for research sources is one of the most fundamental academic practices. Unfortunately it is also one that often gets neglected by students, especially in a world where information is as easy to come by as typing a question into a search engine (Julien et al, 2013). The vetting of this information is seldom given a second thought (Case, 2012). While this problematic is often addressed in introductory courses/modules/units in Higher Education, it seems to be difficult to get novice researchers to internalise this practice (Hepworth & Walton, 2009).

This paper reports on a visual concept developed to let students analyse academic secondary sources in order to build their understanding of what types of sources might be suitable to utilise in their own specific context. Using different types of sea creatures living at different academic depths in an ocean of publications as an analogy, the 'Fishscale of Academicness' is a teaching intervention that introduces highly visual images (in form of a Prezi, available as illustration to a lecture and a stand-alone for a virtual learning environment) into the classroom as well as simple design and ranking activities. While the details of this concept are shared and discussed elsewhere (see Gröppel-Wegener, 2015 for the presentations themselves; see Gröppel-Wegener and Walton 2013 for a theoretical analysis of how this concept works), this paper aims to provide an overview of how it works in practice. While the Fishscale was originally developed for an arts, media and design context specifically for Level 4 (first year undergraduate) students, it has since been tested in a number of disciplinary contexts and at different academic levels.

The main sections of this paper have been contributed by the tutors that have taken part in the initial testing, providing different perspectives on the use of the Fishscale concept in various types of classrooms and encompassing a number of disciplines. Alke Gröppel-Wegener, Senior Lecturer teaching study skills to Level 4 art and design students at Staffordshire University, set up the context via the Background and Methods section, as well as the section discussing the Fishscale in an art, media and design context. The section dealing with the responses of Level 7 trainee primary school teachers was contributed by Katy Vigurs, Senior Lecturer at Staffordshire University. Geoff Walton, Lecturer in Information Sciences at Northumbria University, provided the section on how Level 6 communication and public relations students worked with the Fishscale. Plymouth University's Helen Bowstead, Lecturer in English as a Foreign Language, focused on the ways international students could be helped by visual presentations. Finally, Lesley Raven, a doctorate researcher based at Staffordshire University who worked as assistant researcher and data-handler on this project, contributed the conclusion.

ISSN: 2044-3315

Background

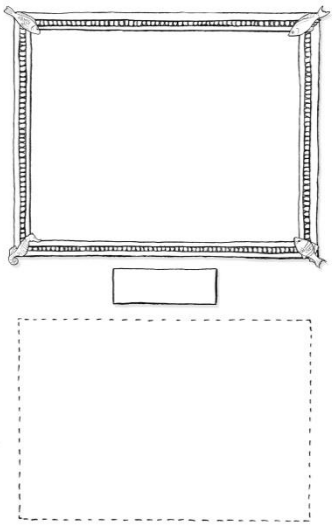
The Fishscale of Academicness was inspired by a presentation by Claire Penketh (Beaumont and Penketh, 2010). Speaking about introducing her classes to reading at degree level, Penketh explained how she asked her students to reflect on the different types of sources – and genre – that each individual was confronted with each week by first making a simple list of the types of writing they had encountered within the last week, and then proceeded to talk about the differences. Taking her cue from John Bean (2001), who suggests that learning to read at degree level is like learning to fish in deep waters, she illustrated this with images of fish – a goldfish to show an email, an angler fish for a really obscure piece of writing.

Based on this starting point, Alke Gröppel-Wegener developed 'The Fishscale of Academicness', as a visual way of explaining to her students (from first year art, design and media disciplines) that secondary sources are not just about their content, but that there are different types of sources available and that these vary in their appropriateness as references for an academic research essay. Its current version is a pack of resources: two presentation in Prezi format (one to provide illustrations to a lecture, one with more text to become a self-explanatory stand-alone resource that could be linked to a Virtual Learning Environment), a black and white booklet that can be printed and easily copied, as well as a colour copy of the booklet that can be ordered at cost through a print-on-demand service.

Initial testing indicated that it was the included activities, though, that were more effective than simply introducing the concept through an illustrated lecture (Gröppel-Wegener, 2013). While the illustration and the analogy as such were a colourful and fun way to introduce the concept of provenance of secondary sources, it was really the two linked activities that seemed to make a difference in students' work, giving them a chance to try and establish the provenance of sources on their own.

The Fishscale includes two activities, incorporated into the lecture with prompts. The first one comes after the concept of visualising sources as sea creatures is introduced. Here small groups of students are asked to design the sea creature of a sample source, and to provide a rationale of why they chose this particular sea creature. Students are provided with a handout (Figure 1) into which to draw the sea creatures, which has spaces for a written rationale as to why these specific sea creatures have been chosen. The second activity comes after the concept of the depth of the academic ocean is introduced, now students are asked to identify how deep their sample sources would live, again students are provided with a handout (Figure 2) showing an elevation of the 'academic ocean', where they are encouraged to mark the place where 'their' sources would be at home. This determination is then shared in a class discussion, where each group explains first their designs to the whole class and then all the sample sources are ranked from most shallow to deepest.

ISSN: 2044-3315



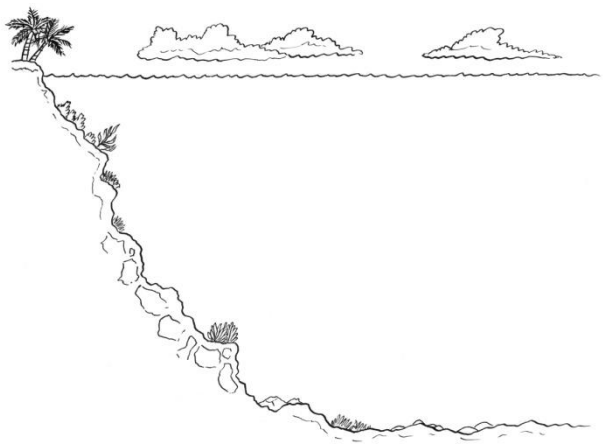


Figure 1 and 2: handouts used for the Fishscale activities

Towards the end of the lecture there is another activity that asks students to reflect on what the assignment they are working towards should look like as a sea creature. There was no specific handout provided for this.

As mentioned above, initial informal testing suggested that students from art, design and media classes made better use of academic sources after the lecture had been introduced with the activities. The question now was whether this could be proven in a more formal context - and whether results would vary between different disciplines and academic levels, which is what the research presented here aims to explore.

Methods

Using the resources as they had been developed, the objective was to test student understanding of the concept of provenance – and to see whether that understanding changed measurably after the lecture and activities. Consequently three questionnaires were developed, one to be filled out before the lecture (Q1), one immediately after (Q2), and one that could be filled in later on in the term, if that was appropriate or possible with the student group (Q3).

The questionnaires tracked reading habits as well as asked after the understanding of research through different modes and types of sources. Q1 particularly focused on the way students interacted with both analogue and digital literature sources, asking participants to rate the frequency in which they accessed 12 different types of sources. This was backed up by some open ended questions asking to identify methods for sourcing and the usefulness of the literature in the context of specifically academic

ISSN: 2044-3315

research. Q2 asked particularly about the lecture and activities, trying to identify what the students' attitude to this kind of delivery method and activities were. This was done through a mixture of qualitative questions and some Likert scale ratings. Q3 included the questions from Q1 in order to ascertain whether a change had taken place, as well as questions trying to measure what students remembered about the lecture and activities, and to make a judgement of this as a practice to support academic course work.

Overall four tutors tested the Fishscale with appropriate student groups at three universities (Staffordshire University, Northumbria University and Plymouth University). 216 students took part in the survey. Student groups ranged from Levels 4 (first year undergraduates) to 7 (post-graduate students), and were from different disciplines.

The Fishscale in practice

Testing of the Fishscale took place in the academic year 2013/14. In the following sections, each tutor presents their perspective on how the Fishscale worked with their students. While the core concept and resources used were the same, depending on the context of the sessions there were slight differences to the delivery. For example, the length of the sessions could vary, the technology available to deliver it, whether all the activities took place, whether all three questionnaires could be administered or maybe only two, as well as what sample sources were used and whether they were provided by the tutors or the students themselves.

The following sections contain the perspectives of the tutors that were conducting the sessions, and they include a short explanation of how the delivery of the session differed.

Searching for the 'sholfin' - The Fishscale in an art, media and design context

I developed the Fishscale approach because I realised that the establishing of the provenance of secondary sources is a part of academic practice that is essentially hidden to students. Yes, they are possibly made aware of the fact that some sources are better than others, but their work does not show that they acted on this. Yet it is a practice that is crucial to any researcher, even a novice one. The challenge as I saw it is therefore to make this practice visible, to turn it from something abstract into something concrete for the students to experience: activities that make the students go through the motions of analysing the type of a secondary source at least once in class, so they get a better idea of what it is we are expecting them to do.

ISSN: 2044-3315

At Staffordshire University, 165 first year students took part in the testing of the Fishscale, organised into seven different groups of students. Here the disciplines were Animation (17), Comic and Cartoon Arts (17), Film/Media Production (39), Fine Art (26), Graphic Design and Illustration (21), Photography and Photojournalism (28), as well as Surface Pattern and Textile Surface Design (17). The Fishscale session was part of a first term module for first year students which is designed as an introduction to academic practice, here the students learn how to write a degree level style research essay. Their assignment is to write a short essay (1000-2000 words depending on their discipline). Usually in the same session, before going into the Fishscale, I also introduce students to the Harvard system of referencing, so this follows a time of thinking about plagiarism and academic referencing.

The sources used as samples for the activities were taken from the same basic selection, representing leisure reading, the online presence of a reputable newspaper, Wikipedia, a magazine for creatives, a design book for the general public, two different peer-reviewed academic journals and a book geared towards academics, which was based on a PhD thesis. It was made clear to students that none of the sources were directly related to their studies, and that this was on purpose, as the aim of the session was to analyse the type of sources rather than make a determination of the value of the source based on the content.

While the feedback from students on the activity was predominantly positive, it was also extremely polarised. There were students who stated that they had found it incredibly helpful, while others described it as "pointless" and "a horrible idea". Overall the majority of the groups stated that it was helpful, apart from the Film/Media Production students, where an equal number of students responded with helpful/unhelpful and 'I don't know'. This was also the only group where the majority would not recommend the Fishscale concept to a friend.

(While there is not the space here for a proper analysis of the Film/Media Production group as an outlier, it might be worth noting that this was the largest group I taught, which might have made a difference in the delivery particularly of the activities, simply because it can take more time to deal with a large group than with a smaller one. This was also the only session where I had technical problems, with the Prezi freezing on the third slide, so I got them to design their response to the sources early in order to give students something to do while I was rebooting the computer and internet connection.)

Mostly the qualitative comments indicated that students had understood the concept. However, students tended to be more positive about the concept and activities in Q2 (delivered immediately after the session) than in Q3 (delivered between one and several weeks later, depending on how often I saw the classes). There was a clear indication in some of the comments that students had not only understood the concept, but had also been able to transfer the rationale behind it into their own research

ISSN: 2044-3315

practice, for example one student stated that s/he before "most of the time would look for first site, now I search for suitable sources."

What I find most interesting about the data collected are the images that were produced by the students during the activities. In the sessions 65 images of sea creatures representing sources were drawn by students. These range from very basic doodles of fish to fairly elaborate sea creatures sporting anthropomorphising accessories (such as handbags for the leisure magazine or top hats and monocles for peer-reviewed journals). These images show that students clearly grasp the concept of provenance and are able to accurately analyse sources they come across for their academic value. (Indeed in the ranking exercises with the groups I only came across one single instance where the students decided on a completely inappropriate depth, which after probing turned out to be because they were focused not on academic relevance but on relevance of content for their own specific discipline.)

In a way the Fishscale activities are built around the idea of turning the establishing of the academic provenance of sources into a design activity. Drawing the sea creatures produces a physical outcome, which gives students a different sense of ownership than they would have if they were just discussing the sources. While it probably helps that this is highly visual, particularly with these kinds of learners who predominantly identify as being visual to at least some degree, it is the activity that is important.
That is why it is disappointing that this concept seems to be judged as childish by some students. The visuals of the presentation are purposefully done in the style of a children's book, in order to be non-threatening – both in the context of what is discussed (as academic sources can be quite intimidating to first year students) and in the context of them producing their own artwork, something a lot of them feel shy about, as evidence by a lot of the students murmuring things like "but I don't draw" when asked to design a sea creature.

The metaphor of sea creatures has the potential to make it easier for students to interact with academic sources as it provides a way of describing them, as the proper terminology for analysing the provenance of secondary sources might still lack at this stage in the students' academic career. It is this transfer of terminology that potentially empowers students to make academic research conventions their own, as demonstrated by the animation student who commented in one of the questionnaires not only on the characteristics of valuable academic sources, but also on the characteristics of the essay to be produced: "Good source/essay should be friendly like a dolphin but have qualities of the shark and made a sholphin hybrid." This newly discovered sea creature, the sholphin, is an excellent explanation of what the establishing of a provenance is about, and how the lessons learned from looking at academic sources should be applied to the academic writing produced.

ISSN: 2044-3315

'Sorting literature in an imaginative way' - The Fishscale in an education context

When I was first introduced to the Fishscale of Academicness concept, it resonated strongly with the academic development work that I find myself practicing with postgraduate students on a daily basis. I was attracted to the visual metaphors and the ease with which they communicate the purpose and process of conducting source evaluation, which sometimes feels like an abstract and 'dry' concept to teach. I thought the Fishscale Prezi and booklet had a children's book feel about them and wondered how trainee primary school teachers would respond to the Fishscale workshop.

Thus, I conducted the Fishscale with 35, full time, Level 7 (postgraduate) students who were all training to become primary school teachers through a one-year PGCE programme at Staffordshire University during 2013-14. The programme involves both study at the university, including traditional written assignments, and teaching practice placements in schools. The students on the course are required to engage critically with published educational research literature in order to develop their knowledge and understanding of pedagogy and curriculum development and to assist them to reflect upon their own teaching practice. It is important to note that although I am a Senior Lecturer in the School of Education, I am not a tutor on this PGCE programme. Thus, the students had never worked with me before. However, the PGCE tutors welcomed the idea of the Fishscale workshop being conducted with their group as they had come to the conclusion that spending time in class discussing and identifying study skills was important for the academic development of the PGCE students.

What I observed on meeting the group of trainee teachers was a variety of levels of experience and confidence in relation to academic reading and writing. This was borne out by the questionnaire responses and may have had some bearing on the participants' responses to the Fishscale activities. For example, those that perceived themselves to be confident and proficient at academic reading and writing seemed to find the activities 'a bit trivial and patronising'. Whereas those who disclosed finding academic reading 'tricky' and having experienced difficulty when using published literature in their assignments, seemed to find the activities and approach useful to developing their understanding and thought that it would likely improve their reading and writing practices. Unfortunately, I was only able to carry out Q1 and Q2 with the PGCE group. Without the results from Q3 it is difficult to ascertain the impact of the Fishscale on the group over time. However, the data generated from Q1 and Q2 suggest that the Fishscale activity was positively received by those who were less confident about enacting academic study skills.

Prior to conducting the Fishscale activity, twenty-two participants said they found reading for academic purposes difficult and the same twenty-two said that they found it difficult to use published literature effectively in written assignments. Immediately after

ISSN: 2044-3315

the Fishscale activity, seventeen said that being introduced to the Fishscale had helped them to consider how different types of sources can be academically useful in different ways; thirteen said that they thought the Fishscale should be taught in class sessions; and fourteen said they would recommend it as a helpful resource to other students. The experiences of this group are explored in more detail below.

As intimated above, this group of PGCE students completed Q1 before experiencing the Fishscale workshop. They then were introduced to the Fishscale using the full Prezi and some of the supporting activities (so they looked at a range of sample sources that I had selected for the group and then represented each sample as a sea creature). Then they were asked to complete Q2 to capture their experiences of and responses to the Fishscale workshop and resources. This was not a wholly straightforward process. The Prezi itself took a long time to load due to the quality of the Internet connection available in the location for the workshop. This put additional time pressure on the workshop, which meant that it was not possible to complete some of the set activities. For example, we were unable to faithfully conduct the activity where sources as sea creatures are placed at different academic depths, although we did discuss the concept during the Prezi. We also were not able to complete the group activity that asked them to imagine their assignment as a sea creature.

Seventeen of the group said that they found the act of visualising different sources as types of sea creatures to be helpful. Positive responses included:

'Very useful and allows you to sort literature in an imaginative way.'

'Very good… I liked the idea of fishing for information.'

'Lovely clear theory. Helps to think about what features to look for.'

'Good analogy that gives you a clearer idea of what texts to use and how to assess them.'

'It was useful thinking about sources in terms of depth and type.'

Some of the students highlighted that it was the *purpose* of the activity that was useful, i.e. increasing awareness of and approaches to the critical handling of texts. Others outlined that the visual metaphors *themselves* were valuable in developing their knowledge and understanding of the concept of information discernment and how to apply this in academic practice. However, not all participants found this activity to be useful. For example, other respondents stated: 'It was a good concept but I am unsure I will think about it when physically reading for assignments', 'I thought it was a good idea, but it didn't work for me'. Thus, even though some participants liked and understood the concept of the Fishscale, they were unsure that it would be useful to

ISSN: 2044-3315

them in their own academic practice and development. Other participants had more negative responses: 'Too much time spent on it for little information' and 'It's a bit silly'. As mentioned earlier, analysis of the questionnaires suggests that the students who had the negative responses to the Fishscale were those who felt they already had high levels of knowledge and understanding about information discernment and how to practice it. They felt that the workshop was a waste of their time, although we do not have data to support that their levels of confidence matched their levels of achievement in module assessments. This would be interesting to explore in future research.

Sixteen participants said they found the group activity to design a sea creature based on sample sources to be a useful exercise. It was described as being 'fun and thought-provoking' and allowed them 'to think about literature from different angles'. Others noted that 'it encouraged discussion with fellow students who gave good advice on how to approach reading academic journals' and one other commented that 'we saw how other people in the group look at texts, this made me think'. This collaborative activity was seen by some as helpful because it facilitated discussion between students with different levels of experience and confidence, which aided reflection on students' past practice of information discernment. This point is interesting because although thirteen of the group felt that the workshop was not useful for them as individuals, the knowledge and experience of academic reading and writing, and their higher levels of confidence at such practices, that they brought to the Fishscale activities was seen as helpful by the less confident students.

Eighteen participants said that they might think about sources as different types of sea creatures in the future. In terms of what participants found to be most helpful, responses to a question about 'lessons learned' included:

'That visualisation and analogy makes the analysis of sources accessible'

'How some sources are better but how you need to use a variety of types'

'visualising the depth of reading and writing that is needed'

'Useful for people who are unclear about what sources to look for or how to search'

'Good introduction to considering academic sources'

Such responses suggest that over half the group found the Fishscale workshop to be valuable in developing their knowledge of and future approaches to information discernment.

The responses to the question on Q2 that asked participants to comment on why some sources were referred to as sharks in the Prezi were quite enlightening as there were

ISSN: 2044-3315

two main responses: The first was that such sources have 'more teeth', meaning that they may contain more valuable and useful information 'even though they may look scary at first glance'. Students who identified themselves as having higher levels of ability and confidence when it comes to information discernment saw the 'sharks' as 'important, strong sources', because they 'can be useful and deep' even though they may 'need to be used with caution'. These students understood that sources depicted as 'sharks' can be very valuable when writing an academic assignment. However, the second, alternative response by other participants was that such sources are currently experienced as academically off-putting, as illustrated by the following comments:

'They are dangerous and can be overwhelming'

'Scary - unapproachable'

'They will harm more than help'

'Dangerous - need to be wary of them'

'Because you wouldn't touch it - too heavy, a bit daunting'

'Because some sources can be difficult and scary to use, so make you nervous and scared.'

Such responses seemed to communicate the fear that some students experience when working with a range of academic sources. This is a point that tutors might benefit from knowing. For example, that even if students have a first degree, there may be over half the group that still lack confidence when using academic sources.

My testing and evaluation of the Fishscale workshop has led me to a couple of tentative conclusions. Firstly, having conducted the Fishscale with this mixed group of postgraduate students, it could be particularly useful as an 'opt-in' workshop for students who feel they need additional support to develop their academic reading and writing skills. However, the challenge with an 'opt-in' only workshop would be that the less confident students would not benefit from discussing ideas with those with more experience of and confidence in conducting information discernment, who would likely choose to opt-out if given the chance. Secondly, I would be interested in seeing the Fishscale developed into a professional development activity for university lecturers so that they can start to reflect upon how they support their students to develop their approaches to source evaluation and information discernment.

ISSN: 2044-3315

'Different Fish have Different Character[s]' - The Fishscale in a communication context

For many years I have tried a variety of ways to enable students to think critically about the information they use, whether that be a peer-reviewed article or a webpage, for their assignments. Some have worked better than others for example using online discussion boards to enable students to agree on a set of evaluation criteria for web-based information worked well. There are three things in particular that I like about the Fishscale approach: firstly, it is highly visual and novel which tends to engage learners in an immediate way and causes a strong reaction even if that is negative rather than positive (our real enemy is indifference); secondly, the 'depth' metaphor is accessible and fits very well with the way we describe information for example, 'deep', 'hidden depths' or 'shallow'; finally, the fish themselves, especially the sharks and the way that this marries up with the common metaphor of something that is strong in nature for example, an argument or legislation as 'having teeth'.

To test out this new technique I conducted one research project with 17 Level 6 (final year undergraduate) Communication & Public Relations students at Northumbria University. The module is entitled 'Texts and Contexts' and is focussed on critically analysing text, mainly written but some visual material also, especially infographics and propaganda posters and leaflets (both contemporary and historical).

The students were given Q1 to complete and then the Prezi was shown with additional commentary from the tutor. They were then given the handouts (illustrated in Figure 1 above) in order to help visualise their chosen resources. For the purposes of this exercise students were told to explore sources they had used for their most recent assignment.

It was clear from the initial responses during the presentation that most students were amused and quite interested in the whole idea. They very clearly liked the images in the presentation as several commented on their quality and style. To determine whether this approach had made any lasting difference to their approach to information discernment, Q2 was administered approximately 8 weeks after Q1 and responses recorded. What I was particularly interested in was whether the presentation had encouraged students to think differently about information sources and secondly whether that made a difference to their information discernment defined as, *the ability to use higher order thinking skills in order to make sound and complex judgements regarding a range of text-based materials* (Walton & Hepworth, 2013, p55). Therefore the focus of this discussion is on Q2 responses.

My attention was drawn specifically to the qualitative comments that students had made. Whilst some comments were rather terse others provided a rich insight into students thinking about the Fishscale approach. In this initial sweep of the data, the

ISSN: 2044-3315

broadly positive and negative comments were grouped together. It must be noted that there was, in fact, only one negative comment found throughout all the responses. This may be due to the researcher being present though the students were asked to be as honest and critical in their responses as possible.

Some students clearly found the Fishscale approach a useful way of thinking about information, 'It make (sic) me reflect on the attributes of the sources which I haven't thought about before'. This indicates that the student had realised that perhaps he/she was using a limited set of criteria ('attributes') for making judgements about information they would use. This act of reflection demonstrates, at least for this student, that it had triggered a reflective response leading to deeper learning. Another student commented that the Prezi, 'Make (sic) me look at how good sources are and what to look for in the future'. This shows that this student has been sensitised to issues of information discernment (Walton & Hepworth, 2013), that some sources are better than others, and that there is, an intention at least, to be more aware of quality issues when using information in the future. A different student noted that the Fishscale Prezi, 'Breaks down information sources'. This indicates that the presentation might alert students to the different categories of information available that they had not thought about hitherto. This is an important point as there is a great deal of anecdotal evidence from librarians that students have an inability to tell the difference between peer-reviewed journal articles and other information sources - especially on the world wide web. It appears that the Fishscale enables students to disaggregate sources into different information types. There is also an allusion to how the Fishscale might assist memory in this comment, 'Different fish have different character (sic). Remember more'.

This last comment indicates that the concept actually promotes critical thinking, at least to some degree, 'It makes you think about the sources you have used and just how good they are or bad they are'. It is a little disquieting that students at Level 6 were not thinking about the quality of information hitherto. This perhaps more than anything else very strikingly shows the need for this kind of approach to enhance academic study.

Some students could see the inherent metaphor and the connection between sea and information for example, 'Because it links well to the shallowness/depth of information etc' and 'Because they were more in-depth books that contain a lot of information-not to(o) clear', which demonstrate the usefulness of visual metaphor in this pedagogical context. Comments on the 'shark' metaphor were again illuminating, and highlighted how students bought into the concept for example, 'Because they were sources you could get your teeth into. They were the top sources > top of the food chain' and 'Because they have a lot of facts (teeth) and are very serious'. It is interesting how the 'teeth' metaphor has been envisaged in two slightly different ways, both conveying the idea that the information is of good quality.

ISSN: 2044-3315

The style of the images presented seemed to have a positive effect, especially that they were non-threatening in appearance for example, 'Bright + friendly are -images including helpful info'; 'I like the bright and friendly one as it made me re-evaluate some of my resources' and 'I like the bright and friendly fish as it relates to me and how I learn and engage - visuals'. For some, the presentation created a positive affective state which is important in enabling learning (Walton & Hepworth, 2011) and also appeared to encourage students to reflect upon the resources they had chosen. This indicates that students may have been engaging in some metacognitive thinking, an additional enhancement to the process of becoming information literate (Walton & Hepworth, 2011).

There was very little critical or negative comment about the concept. The only negative comment was one of detail, 'I found it quite hard to focus a text down to one sea creature'. This may be down to a simple lack of practice or, it may indicate a more serious issue that some learners do not engage well with visual materials and prefer more text-based approaches.

This is a positive outcome, the students genuinely enjoyed working with the imagery and could see how it assisted their thinking in making judgements about information sources. However, given that the students were in their final year, a greater level of underlying information may have been expected of them. This, perhaps, underlines the need for the Fishscale approach to be adopted and adapted more widely as part of an eclectic pedagogy for information discernment used in tandem with other activities and tools.

Drowning not waving - The Fishscale in an international students context

As a lecturer in English for Academic Purposes, I teach international students across a range of stages and programmes, and because accessing written texts is often so problematic for students operating in an additional language, using visual representations to make sense of the need to establish academic provenance seemed to me to have huge value and potential. Though many of the students I work with struggle with reading, I have particularly noticed the intense difficulties many Chinese learners seem to face when asked to identify and make sense of an 'academic' text. Though their approach to reading is often meticulous and methodical, when they are done, their levels of comprehension often remain very, very low.

When students face challenges that overwhelm them, they find ways to overcome, circumvent or ignore them. Students with poor language skills (even if they are expert readers in the own language) often drown in the seas of academic reading. When the very act of reading itself is so problematic, how then do you address the need not only to engage in reading, but also to read the 'right' kinds of texts and sources? Time and

ISSN: 2044-3315

again, international students fall foul of university expectations regarding the (appropriate) use of (appropriate) sources. In class, I try to highlight the need to read and reference the 'right' kind of sources, but 'right' is a tricky concept when any and every source is a battleground. Faced with a tidal wave of impenetrable literature, who wouldn't take the easier option and choose the text that offers up its meaning most simply and conveniently?

I decided to trial the Fishscale materials with a multidisciplinary group of international students enrolled on a stage two module in English for Academic Purposes. The majority of this particular cohort was Chinese (from the mainland and Hong Kong) and many of these were direct entry students from a local FE institution or a partner college that offers international students pathways into undergraduate study. In the first session, I used the Fishscale Prezi and talked through how the images might be a helpful way to think about the academic quality of sources and asked the group to complete the first questionnaire. In the follow up session the students were asked to bring along the sources that they were planning to use for an assessed small-scale research project. Anticipating that a significant number would not remember (or wish) to bring their own texts and sources, I also took along a number of online articles that represented a cross section of the top hits that came up when the search term 'effective language learner' was entered into google. The sources varied in academic quality, and included online guides to learning a language, unpublished papers and peer-reviewed journal articles. In the second session I asked the students to work in groups and plot a selection of these sources (including any of their own) according to the Fishscale handout (figure 2). Most of the students seemed to find this quite easy to do, and seemed to have a good idea of the textual clues that would identify a particular source as suitably 'academic'. The notable exception was the unpublished paper, which many students identified as being of equal academic value as the peer reviewed journal article.

I then invited the students to draw a visual representation of their own source (or one of the sources I had provided) and, while many did not engage well with this activity, a small number became unusually animated and produced some amazing drawings of the most fantastic sea creatures. Although the students found it difficult to articulate how these creatures represented the 'academic' quality of the source they had chosen, there was definitely a sense that 'something' was happening. Most interesting for me though, were the discussions that the activities generated around how the ability to spot a suitably 'academic' text did not necessarily translate into the use of such sources in the students' own work. When it came to the texts the students themselves had selected and brought to class, it was clear that many had chosen to bring whatever they came across first. I was intrigued by the fact that they did not seem to appreciate that the sources that rate most highly in terms of a number of internet hits, are unlikely to be the ones they should be using in their academic work. When I demonstrated this by showing what came up if the term 'what makes a good language learner?' was entered

ISSN: 2044-3315

into google, they were surprised at how 'deep' within that search the most suitably academic article they had looked at could be found. The students were then asked to complete Q2.

When I looked over the responses to the second questionnaire what struck me most was the way the students had engaged with the shark metaphor. Some of the students had clearly made a connection between the image of the shark and the difficulty of locating appropriate academic texts: *"Sharks live in the deep of the sea. Like the sources we find, if it's academic, it will be harder to find it"*, and others had responded to what the shark represented in terms of the levels of difficulty and risk associated with an academic text: [my favourite image is] *"the shark with teeth because some sources of [sic] good but really hard to read".* However, what was also clear was that some students were likely to continue to judge a source' value on its accessibility and not its academic provenance: "*I tend to judge the sources according to what I understand".* The responses to the second questionnaire were not expansive, eliciting comments and feedback from international students can be problematic if the language levels are low, however, the overall impression was that there had been a good level of engagement with the materials and in the end of year module feedback one particular comment stood out: *"All I remember is the fish".*

Overall, I found the Fishscale experience both enjoyable and insightful, and I think there is much to explore in terms of how we communicate the requirements of the (UK) academic context to students who have diverse educational experiences and backgrounds. However, while the 'Fishscale of Academicness' certainly proved to be a useful means of helping international students gain a better understanding of how and where to find appropriate academic texts, for some issues around accessing and fully comprehending such texts is likely to remain a defining factor in their ability to establish a provenance for research sources.

Conclusion

This paper is a collaborative investigation into the effectiveness of the 'Fishscale of Academicness'. The strategy for investigation was developed by Alke Gröppel-Wegener and supported by the three contributing authors, who were all academics derived from UK Higher Education Institutions, each with vested interest in developing student abilities for engagement and articulation in academic practices. Each academic delivered the lecture-workshop to a different cohort of students from different disciplines and levels of study. This resulted in a broad sample of participants comprising undergraduates from all levels: first year Art, Design and Media (AD&M) courses, second year international students studying English for Academic Purpose (EAP) modules, third year Communication and Public Relations (C&PR) students and postgraduate Initial Teacher Trainers (ITT).

ISSN: 2044-3315

Due to the collaborative nature of this paper, the key findings and recommendations by each academic discipline have been identified within each section above. Similarities or differences from across the varied disciplines are discussed below and form a meta-analysis of the 'Fishscale'.

All of the student participants watched the Prezi and a majority participated in the associated tasks to visually depict the sources as sea creatures and to rank them using a scale of information discernment (from surface to deep) by locating the illustrated source on a cross-section of the ocean. Time limitations prevented the post-graduate cohort from undertaking the visual task to rank the sources and instead discussed this as a group; similarly a majority of the C&PR cohort did not participate in the visualisation tasks and instead contributed to group discussion, which weakens the potential usefulness of the fishscale as a visualisation tool, but lends support to it as a discursive, verbal articulation aid.

The potential usefulness of the 'Fishscale' methodology was sought from the student feedback questionnaires and triangulated by the academics' observations and recollections. All students completed Q1 and 2. Only some of the first year AD&M students completed Q3, which was conceptualised as an impact assessment. However, the third year C&PR cohort completed Q2 at 8 weeks post lecture-workshop, which contributed as an impact measurement but did not explicitly identify reflection upon learning as Q2 did address this aspect given that it sought immediate feedback. Within the analysis of the questionnaires by the AD&M students, it was noted that feedback immediately following activity participation was more positive than at some time later (between one and several weeks). This lends further support to the possibility that the 'Fishscale' was found most useful as a group intervention (lecture-workshop) and that independent adoption and utilisation is more tentative. However, a majority of the C&PR students rated the 'Fishscale' positively at 8 weeks post-workshop, which suggests useful application as both a group and independent strategy. Although this is a tentative supposition, as the C&PR cohort did not complete Q3 (to fully measure the impact of independent application) and did not fully participate in the visualisation activities. Further, the C&PR cohort had also been identified as having poor abilities for critical evaluation, which could increase the likelihood of accepting a strategy to support skill development, especially given their status as final year students approaching course completion.

To lend further attention to the level of study and ability of the students, the second year EAP student participants had the poorest levels of English language. Whilst identification of positive or negative feedback from these students was not made explicit, active engagement in the visualisation activities was noted to generate group interaction. The concept of the 'Fishscale' to enable group discussion was also noted within the post-graduate cohort. The abilities of this cohort were mixed, ranging from

ISSN: 2044-3315

low to high self-perceptions and the generation of group discussion was perceived to have beneficial possibilities for peer learning and articulation of critical thinking. From this it can be surmised that the 'Fishscale' Prezi and activities were useful to develop group discussions. Further consideration for the 'Fishscale' to influence independent practice was unidentified due to only the AD&M cohort completing Q3 and calls for further investigation.

Following initial overarching discussion above, of the perceived usefulness of the Fishscale from the student feedback and observed engagement with the activities, attention is now focused on specific aspects of the strategy:

The illustrated content of the Prezi (non-threatening images of sea-creatures) received mixed feedback: some of the AD&M cohort perceived the images as childish, whilst the C&PR cohort rated the images as having quality and facilitating amusement that fostered interest. Whilst negative reception of the illustrations by AD&M students is noteworthy, given the possible relevance of association with their discipline specialism, this could be refuted given that overall engagement with the Prezi suggests the images were not totally off-putting; that opinions are variable (not everyone will agree to like the same style) and the positive feedback by final year students who were studying a C&PR module that comprised analyses of other imagery (propaganda posters, info graphics etc.) lends qualification for C&PR cohort opinion to be warranted.

Further to the activity of visually depicting sea creatures being identified to foster group interaction, the physical outcomes (drawings) were notable for several reasons: qualitative analysis of the drawings within the AD&M section (description of the anthropomorphic accessories; the multiple) and varied interpretations of the shark by other disciplines, served to verify understanding of the provenance of literature sources, which lends support for the uses of visualisation and visual analysis to aid understanding of other complex, often difficult to articulate, issues to be further investigated.

Finally, attention should be given to information discernment. The AD&M students comprised a majority of the total study cohort and tended to rank the academic literature sources similarly, leading to suggestion that students do share an agreed taxonomy for academic literature sources. However, this was refuted by the international student cohort and highlighted the possible relevance of culture to inform academic practice. Although it is noteworthy that differences in ranking of academic sources may also be attributed to poor English language comprehension, and lends support for creative, collaborative and visual tools to aid developing academic practices to be further explored, particularly with students that require additional study support.

To conclude, given the diversities of the contributing academic disciplines and the skills for students' information discernment, both across year/levels of study and within

ISSN: 2044-3315

individual cohorts, anomalies between student and discipline responses might be attributed to these differing characteristics, lending support for continuing investigations with greater specificity in order to verify initial findings. Similarities across student and discipline responses points to a universal collegiality and lend support for the possibility of future application with varied cohorts of learners from across differing academic disciplines, particularly as the tutor commentary suggests that the Fishscale served as a valuable starting point for the discussion of information discernment.

Acknowledgements

The researchers would like to acknowledge the support Staffordshire University has provided via the Institute for Applied Creative Thinking (I-ACT) as well as a Vice-Chancellor's Teaching-led Small Research grant without which the development of the Fishscale resources would not have been possible. Also many thanks to Josh Filhol (www.jfilhol.com), the illustrator of the Fishscale presentation and booklet.

ISSN: 2044-3315

Bibliography:

Bean, J. (2001) *Engaging Ideas – The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom* San Francisco: Jossey Bass.

Beaumont, C. and Penketh, C. (2010) Evaluating the Undergraduate Experience to improve an Access course. Presentation at *Flying Start Symposium* at Liverpool Hope University, 10. June 2010

Case, D. O. (2012). *Looking for information: a survey of research in information seeking, needs and behavior* (3rd edn.). Bingley: Emerald.

Gröppel-Wegener, A. (2015) *Fishscale* [online] available at: http://www.tactileacademia.com/fishscale

Gröppel-Wegener, A. (2013) Testing the waters - can the use of visual sensibilities in teaching information literacy be successful in art and design and beyond? full paper delivered at *Cumulus* conference 2013, 7-9 November 2013, Dublin, Ireland

Gröppel-Wegener, A. and Walton, G. (2013) The Fishscale of Academicness. In: Walsh, A. and Coonan, E. eds. (2013). *Only Connect … Discovery pathways, library explorations, and the information adventures*. Huddersfield: Innovative Libraries, 15-38

Hepworth, M. and Walton, G. (2009) *Teaching information literacy for inquiry-based learning*. Oxford: Chandos

Julien, H., Detlor, B. and Serenko, A. (2013). Information literacy in the business school context: A story of complexity and success. In: Hepworth, M. and Walton, G. eds. (2013) *Developing people's information capabilities: fostering information literacy*. Bingley, UK: Emerald Group Publishing, 167-177

Walton, G. and & Hepworth, M. (2011). A Longitudinal study of changes in learners' cognitive states during and following an information literacy intervention. *Journal of Documentation*, 67 (3), 449-479

Walton, G. and Hepworth, M. (2013). Using assignment data to analyse a blended information literacy intervention: A quantitative approach. *Journal of Librarianship and Information Science*, 45(1) 53–63.

ISSN: 2044-3315