"They Like Things That Move": Exploring Student Preferences for Presentation of Online Textbook Resources in Religious Education in Australian Catholic schools

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Abstract

This paper examines student perceptions on use and delivery of online resources in religious education. It examines student responses to one series of religious education resources widely used in Australian Catholic Schools. Data was collected using school based religious education leaders to ask students about their opinions and preferences on delivery of online material. Major findings include: the need to present text in small manageable sections that clearly identified key concepts; the desirability of interactive and engaging presentations of material; utilizing images and narratives as a way of presenting complex information; the need to make decisions about the amount of material to be presented as text. These results were discussed within a conceptual framework of seeing effective online resources as contributing to reducing cognitive load for students in religious education.

Key words: online resources, religious education, Catholic schools

1. Introduction

Use of textbooks in education has been a long-established practise (Davey, 1988; Hummel, 1988; DeOlivera et al., 2014). Use of textbook resources has also been a feature of Religious Education (RE) in Australian Catholic schools (Engerbretson, 2002; Rymarz, 2003). In previous decades textbooks have included a range of catechisms, guideline or framework documents as well as resources that reflected an experiential emphasis in religious education. By the late 1970's many Australian dioceses were well into the intensive process of writing and developing guidelines for Religious Education (Ryan 1997). These were intended to be frameworks for curriculum development within schools and not material to be put in front of students. Educational resources such as textbooks or regular magazine type publications became less prominent in this period (Ryan, 2001). Well into the 1990's diocesan educational authorities continued to concentrate resources on developing curriculum frameworks and related implementation as well as teacher in-servicing (Buchanan 2005). When the place of various guidelines in curriculum planning and development had been established, interest was then renewed

in developing educational resources that can be used in classroom teaching and learning. Engebretson (2000) has noted the range of Australian educational resources now used in Australian Catholic schools. These resources, in general, assist teachers to translate what can be found in curriculum documents into quality teaching. In this way they can be seen as supporting existing curriculum documents.

A major textbook resource used in Catholic schools in Australia is the To *Know Love and Worship* (KWL) series. The original version of this series was developed in Melbourne in the 1990's and a revision was undertaken when the series was introduced to Sydney Catholic schools in the early years of the twenty-first century. This study is part of a wider ongoing investigation that seeks to inform a major revision of the KWL textbook resources. The first part of the research identified the need for the revised resources to match as closely as possible to the curriculum frameworks in Melbourne and Sydney (Rymarz, 2019). The view of teachers and students was that the revised version should be largely available online. The study also recognised the importance of future development of KWL resources. There was a strong recognition that with the revision of KWL resources, greater attention must be made to the integration and expansion of online resources. This paper will, therefore, concentrate on what features of online educational resources in RE are most attractive to students.

A range of studies have examined use of online resource in education (Moore and Chae, 2007; Recker et al., 2007; Knight, 2014; Estelle, 2016). This is a broad area of academic interest that cannot be covered in any depth in this paper. The focus here will be on how online resources can utilize cognitive capacities of students and some additional comments on features on online resources that assist student engagement in religious education. Sweller (2008) proposed that recent advances in cognitive science offer an explanation for use of educational resources. Effective learning depends on an individual's capacity to store and integrate information into their long-term memory by way of working memory (Rymarz, 2013). This integration depends on making a clear distinction between long term and working memory. Working memory has a limited capacity, in particular, when it is dealing with novel material (Mayer 2005; Mayer 2008). It rapidly becomes overloaded and is unable to work effectively (Mayer and Moreno, 2003). Expanding on this notion Kirschner et al. (2006) drew attention to the different learning needs of novices as opposed to experts in any given field. The expert has a high level of prior knowledge and hence their capacity to integrate new information is well developed and the capacity of working memory is enhanced (Kirschner et al., 2006). Many students in RE, however, often lack such a level of prior knowledge so a key aspect of resources aimed at assisting students is that they provide a structure and focus which recognizes that their working memory needs support is processing new information. An important element in this support is reducing the cognitive load on working memory. Think of lesson in RE, for instance, where a large amount of information is presented as text. Students may be unfamiliar with the content area and are unable to process it easily. In this case very little learning takes place because the working memory cannot process the large quantities of material that the reader is being exposed to. Presenting unstructured material greatly increases the cognitive load because there are not strong links with long-term memory (Mayer 2004). Sweller

(2008) argues that reducing the amount of extraneous material that the learner has to consider makes the task of the working memory much more directed and focused (Ericsson and Kintsch 1995). Online resources should, therefore, seek to utilize the long-term working memory by seeking to link new materiel with existing information. Online resources, which are structured, engaging and focussed on key information. For example, consideration should be given to how complex ideas are introduced in the online resources (Phillips and Soltis 2009). Effective resources identify and present the most salient aspects of a topic without overburdening the learner with extraneous ancillary material.

As well as reducing the cognitive load on students another important feature of online resources in religious education is their capacity to engage and stimulate the user. This is a broad area and, in this paper, focus will be given to two aspects of this discussion. A feature that generally assists with student's engagement is a high level of learner interaction (Darling-Hammond et al; 2019). For educational resources this would include activities that allow students to actively engage, in a variety of ways, with presented material. A second feature is use of movement and animation in online resources (Pass et al., 2009; Rackaway, 2012; Thompson et al., 2014). Both student interaction and use of movement and animation are effective as they assist in stimulating student interest and also increase their motivation to engage further with the online resources.

This paper focuses on student views on online resources in RE. It uses school based RE leaders, Religious Education Coordinators (REC) to obtain feedback from students. The rationale for this is that it utilized the experience and expertise of the REC to gain information. As such it follows a purposeful sampling rationale (Guest et al., 2015). The REC was in an ideal position to engage with students on their preferences for how online resources were presented as they were known to the students and were familiar with the practice of RE in the school. There is certainly a place for the student voice in research on use of online resources and in the future, as part of this ongoing project, there will be an emphasis on obtaining feedback directly from students. In this part of the project it was seen as important to gain a broader overview on students comments on RE online resources and to utilize the access that REC have to a much larger number of students. An important consequence of this study is to be able to better frame the research questions that will be put to students on their views on online resources in RE.

2. Methodology

Fifteen REC were interviewed on what the students in their schools preferred for presentation of KWL online resources in RE. Ten REC from Sydney Catholic schools (five from primary schools and five from secondary schools) and five REC from Melbourne Catholic schools (three primary and two secondary). Participants were invited to take part in the research on the basis of their willingness to be involved in the project and as being identified as good practitioners by other REC and by leadership in Catholic Education Melbourne and Sydney Catholic schools respectively. REC were interviewed for up to one hour. They were interviewed, following a semi structured pattern were conducted in the school where the REC worked (Micheniello et al., 1995). Prior to

the interviews REC were encouraged to ask teachers in their schools to engage with students about what the students saw as desirable features of RE online resources. On average REC obtained feedback from three classes in their schools.

Each REC was given a common set of questions including links to a series of online resources. A series of funnel questions, such as which of the following items you most prefer, explored a wide variety of issues about how resources were presented. These funnel questions directed students to a series of online resources as well as probing their preferences on display and presentation of online content material. After each interview dominant response clusters were established and these informed the funnel questions for subsequent interviews (Minichiello, et al., 1995). Using this method major response categories were established (Miles and Huberman, 1988). These response categories form the basis of the classification of key responses used to present the results in the following section.

3. Results

There was overall positive feedback on use of online resources. Ease of navigation was seen as a critical part of successful engagement with online resources in religious education. Many of the participants stated that students readily disengaged when they were not able to navigate their way around the online resource. One REC captured this idea well when she commented on the ease of use of links:

Students really liked the way that when you hovered over the link it took you straight to the next display. This encouraged them to go further and explore the text.

This is also the context of the title of this paper, "they liked things that move!" One participant noted that, "the students loved all the interactive stuff... pop ups, zoom in and out, pictures coming to life, they liked things that move." One example of an interactive presentation frequently referred to was the use of interactive maps which allowed for a lot of information to be presented in an engaging format. Things that move would also include interactive activities such as quizzes which appeared as a favourable way of engaging students. These were quizzes which could be generated as students progressed through a unit and could be moulded and adapted for individual class use. Qualifying this comment, however, is an important clarification. For these features to be utilized they needed to be easily accessed by students. One REC noted, "All of this though depends on students being able to use the features." There were many comments which reinforced the point about the necessity of ease of use. Ease of use for future online resources is a major finding of this paper.

A range of questions explored students' preferences on text display. There was a substantial preference for text to be presented in small sections what was reported by many as "manageable bites." When shown samples of text the responding preference of students was for less text and as many other types of presentation as possible. One feature that was consistently negatively reported on, was use of large sections of unelaborated written text. One REC captured the thoughts of many when she noted that students in her school found this type of presentation "boring!" Participants repeatedly preferred texts that were presented in small sections with a range of signposting strategies to alert

readers to key points. Signposting strategies will be discussed in more detail later in this paper. There was a strong preference for text to be presented against light or muted background. In general, darker backgrounds were not favourably received. Students also expressed a strong preference for use of vibrant colour in general as this was seen as enlivening the text. Avoiding large sections of text for future online resources is another major finding of this paper.

There was no clear consensus on how text was presented. Some participants reported that there was a preference for a particular font style and for this to be used consistently. Other REC noted that students in their schools did not highly regard consistency of font style and size. Variations in fonts style and size may be another way of signposting or highlighting key content information. In the current resources though, this is not used as an explicit strategy.

4. Use of Images

Another feature of text presentation were the comments of many REC's that there needed to be a close link between the text and other material supporting the text. The clearest example of this was the use of images. Images were most effective when there was a clear connection between them and what was being presented in the text. One REC captured this point well when he observed that students did not respond well to "floating images." This was where the image was not seen as related to the text. Images were considered valuable because students were able to interpret them at different levels. Visual images captured a lot of meaning and depending on the background and disposition of students could be interpreted at a number of cognitive levels.

On the use of images there was no clear consensus on preference of type. Some participants responded that their students preferred what they called "real" images. These were things such as photographs of people or events. Other participants reported favourable response to animations such as illustrations or stylized art. One advantage of stylized representations was that did not "date" in the same way that a photograph would. As one REC put it, "my students really liked the Lego figures because their timeliness." It is worth noting, however, that another REC commented that her students did not like them at all! On balance there was a slight preference for real images but this was not a strong finding.

Many REC commented on using a variety of images in the new online resources. This strategy would acknowledge the differing opinions on preferred style. It does, however, raise the issue of presentation consistency. Some REC did not see using a wide range of images as a major concern. This was seen as giving a certain vibrancy to the resources and making them more engaging. Others commented on the need for a consistency of style since too many variations impact on the overall quality of the resources. As one REC stated, "you don't want it looking like a dog's breakfast!" There was an interesting parallel to this argument over use of preferred font. Some of the participants reported that their students were not concerned about using a variety of fonts in text material. Others, teachers in particular, were more comfortable with a consistent approach. A similar comment could be made about consistency of backgrounds. As mentioned earlier

there was a strong preference for light backgrounds, and many participants reported that students were not overly concerned with use of different backgrounds.

A range of comments can be clustered together as 'signposting' suggestions. These, in general, made the text easier to follow and reiterate earlier comments on the need for manageable bites of information. Comments in this category included greater use of clear section headings, use of definitions, highlighting of key phrases and words and making greater use of distinctions between core and ancillary text. Participants commented that students liked timelines as a form of presentation. This gave students a sense of the whole and what was to come in the topic. These comments are a reflection on the earlier finding which saw the need to reduce the amount of large sections of unelaborated text and to give students a clear sense of what are the critical aspects of the text. This avoids what one REC summarised as "saturation of information." This notion was encapsulated by one participant who commented:

The students want a way through the text... things that help them see what is really important, to break it up for them more. We do this as teachers but to have it in the resources as well would be great.

A similar comment was made about identifying core information more easily.

My students really liked it when they could find what they needed to know about a topic, especially some of the harder ones... so they liked key definitions set out and explained.

Greater use of links to signpost key information was also suggested. This was with the previously mentioned proviso that links to definitions or further explanation of key terms needed to be very "user friendly", that is, students had to feel confident that they were able to negotiate and access the links when provided.

5. Items to be included

Participants made a range of suggestions about what should be included in future revisions. One common comment was the need for the inclusion of more prayers so that students had ready access to them. This was another area where links were seen as valuable as these could utilize already existing excellent resources on prayer in other places. This was seen as an example of avoiding repetition and what one REC noted a need to keep "reinventing the wheel." In commenting about what items could be included in the new online resource many of the REC commented on the desirability of seeing the resource as a type of filter. This would enable teachers in the classroom to have access to the best resources available and to be a more expedient use of teachers' time as opposed to finding resources in isolation. Having access to prayers is a good example of this principle. One REC noted:

We have lots of prayers out there...there are just so many. Students respond best to ones that are right on topic but these ones can be hard to find like prayers to a particular saint.

This provides another illustration of the importance of linking items in the online resource to what is covered in the curriculum. The closer the connection the more

relevance students see in using the online resources.

Another important finding was the favourable response to narratives used in the online resources. These included a wide range of stories and participants commented on how well students responded to these. Like use of images one of the useful features of narratives is that they are able to capture a large amount of information in a manner that can be interpreted differently by students. In this way stories provided for a more nuanced approach to teaching that, more readily, takes into account individual difference. One of the REC noted the power of narratives as follows:

My students really respond well to stories especially when they are read out to them. You can really bring alive a topic. There are a lot of good stories out there and we find that our students really pay attention to the good ones and want to know more and ask really good questions

Use of narratives raised the interesting parallel issue of use of voiceovers associated with the narrative. Some REC mentioned that students enjoyed hearing stories read out from some type of recording. On the whole, they preferred a student voice be used and not the voice of an adult. Use of voiceovers does, however, raise a series of issues around student literacy.

How many voiceovers are to be used is a broader question which must be decided on after proper consideration of the place of the spoken work in an online text series. If voiceovers are used too often does this detract from the purpose of the text as providing information and other resources to students in written form?

On the question of the quantity of voiceovers a number of well-considered suggestions were made. One particularly pertinent request was for using voiceovers for more personal narratives in the online resources. These would include stories on young people in various contexts. For example, narratives about young people who have come to Australia as immigrants or personal stories about family celebrations. Another suggestion was to use voiceovers when telling the stories of the saints. As one participant commented that, in her experience, these seemed to really "bring them to life."

6. Discussion

A useful conceptual template to analyse this discussion is to see the student's comments as reflective of a desire to reduce cognitive load. This is consistent with earlier findings on use of online educational resources. Consider three of the major findings in this study.

Firstly, it was clear that students preferred presentations of text in small, clear and cogent sections. This would involve focussing on key information and avoiding extraneous material. Focussing information is a key task and supports the notion that a key factor in considering online resources in religious education is the need to reduce cognitive load in students. The question of how this is done is dependent on a range of factors. The nature of the material to be included is a critical consideration. This seems to be a good example of the need for judicious editing of content material. Continually adding content material without regard to its importance or centrality may be detrimental to the efficacy of the online resources. Rather than indiscriminately

adding more text, one strategy that should be further explored is use of images and narratives as ways of presenting a large amount of content information but in a way that engages learners at different levels. REC in this study noted that both images and narratives were regarded favourably by students as long as there was a connection between them and the text used in the online resource. Integration of activities with text and of both with the wider approved curriculum should be a major consideration in developing online resources in religious education.

Participants in the study made constant reference to students preferring information that was central to the topic but presented in a manner which would engage them. There seems to be considerable scope here to explore in more detail use of interactive presentation of content material. In addition, use of animation, or to return again to the title of this paper, things that move, can also be an important focus on how material is offered online.

Secondly, many of the items that were suggested for inclusion in future resources have a clear link to lowering the cognitive load on students. Greater use of headings and highlighting of key words and terms, for example, help focus the learner on what is important. At the same time, it allows them to pay less attention to extraneous material. One way this was described in the study was giving students, a way through the material. This type of signposting is an effective way of reducing cognitive load. Signposting is also a relatively straightforward way of making online resources in religious education more accessible and engaging to students. Compared to other suggestions in this paper such as more animations and interactive tools signposting does not involve a large expenditure of time and energy. Signposting can be done quickly and effectively by competent editors.

The third example, to reiterate, is a strong preference for online, interactive presentations. These are an excellent way of reducing cognitive load. Take for instance the use of interactive maps. By selecting what aspects of a map will be animated the authors of the resource are making an explicit decision on what is seen as more important information. In Paul's journeys, for example, decisions are made about what aspects will be elaborated on in some type of animation. Implicit here is an understanding that some parts of the journey are less critical than others.

One of the challenges in religious education in general is addressing the lack of strong content background of both teachers and students. It is important to consider the question of how best to present online resources in religious education in this wider context. A strong religious education program in schools is dependent on a range of factors. Earlier research in this project has indicated that a key to effective use of online resources is an obvious connection to a well-planned and implemented curriculum. Another critical element are teachers who are supported and nurtured in an ongoing and collaborative manner. To be most valuable the discussion of use of online resources make be cognisant of these factors. Even high-quality online resources cannot make up for deficiencies in curriculum planning and teacher formation. Online resources are best used when they support teachers as they implement the curriculum.

In conclusion, arising from this research a number of avenues suggest themselves for future work. This study was limited by a relatively small number of participants who were selected for their special expertise as school based RE leaders. There would be benefit in widening the study to include a greater number and range of REC. This would add to a more comprehensive consideration of how students use and what they prefer in online resources. Another important area to consider in future research is to capture more directly the student's voice. In this study students's views were gathered by using teachers and school based RE leaders as conduits. In future work it would be desirable to obtain comments and feedback directly from students. This would provide a further and critical lens with which to better understand students' views on the utility of online resources in religious education.

References

Buchanan, M. (2005). Pedagogical drift: The evolution of new approaches and paradigms in Religious Education. *Religious Education*, *100*(1), 20-37.

Davey, B. (1988). How do classroom teachers use their textbooks. *Journal of Reading*, *31*(4), 340-345.

De Oliveira, J., Camacho, M., & Gisbert, M. (2014). Exploring student and teacher perception of e-textbooks in a primary school. *Comunicar*, *21*(42), 87-95. http://dx.doi.org/10.3916/C42-2014-08

Engebretson, K. (2000). The Melbourne archdiocesan textbook project: An innovation in Australian religious education. *Journal of Religious Education*, *48*(2) 28-33.

Engebretson, K. (2002). Writing Church-sponsored religious education textbooks. *British Journal of Religious Education*, *25*(1), 33-47.

Estelle, L. (2016). What students told us about their experiences and expectations of print and e-books. *Insights*, *29*(1), 31-36.

Guest, G., Namey, E., & Mitchell, M. (2015). *Collecting qualitative data: A field manual for applied research.* Los Angles: Sage.

Hummel, C. (1988). *School textbooks and lifelong education: An analysis of schoolbooks from three countries.* Hamburg: UNESCO.

Kirschner, P., Sweller, J. & Clark, R. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*(2), 75-86.

Mayer, R. (2001). *Multimedia learning*. New York: Cambridge University Press.

Mayer, R. (2004). Should there be a three-strikes rule against pure discovery learning? The case for guided methods of instruction. *American Psychologist*, *59*(1), 14-19.

Mayer, R. (2005). Cognitive theory of multimedia learning. In R. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 31-48). New York: Cambridge University Press.

Mayer, R. (2008). Constructivism as a theory of learning versus Constructivism as a prescription for instruction. In S. Tobias & T. Duffy (Eds.), *Constructivist instruction. Success or failure?* (pp. 184-201). New York: Routledge.

Mayer, R & Moreno, R. (2003). Nine ways to reduce cognitive loads in multimedia learning. *Educational*

Psychologist, 38, 43-52.

Miles, M.B. & Huberman, A.M. (1994). *Qualitative data analysis: A methods sourcebook*. California: Sage.

Minichiello, V., Aroni, R., Timewell, P. & Alexander, L. (1995). *In-depth interviewing: Researching people*. Melbourne: Longman Cheshire.

Moore. J., & Chae, B. (2007). *Beginning teachers' use of online resources and communities. Technology, Pedagogy and Education*, *16*(2), 215-224.

Phillips, D & Soltis, J. (2009). *Perspectives on learning*. New York: Teachers College Press.

Plass, J. L., Homer, B. D., & Hayward, E. O. (2009). Design factors for educationally effective animations and simulations. *Journal of Computing in Higher Education*, *21*(1), 31–61.

Rackaway, C. (2012). Video killed the textbook star? Use of multimedia supplements to enhance student learning. *Journal of Political Science Education*, *8*, 189–200.

Rymarz, R. (2003). Texts, texts! An overview of some religious education textbooks and other resources used in Catholic schools from the 1950's to the 1970's. *Journal of Religious Education*, *51*(1), 50-57.

Recker, M., Walker, A., Giersch, S., Mao, X., Halioris, B. Palmer, D. Johnson, H. Leary. H., & Robertshaw, M. (2007). *A study of teachers' use of online learning resources to design classroom activities. New Review of Hypermedia and Multimedia*, *13*(2), 117-134.

Ryan, M. (1997). *Foundations of Religious Education in Catholic schools*. Wentworth Falls, NSW: Social Science Press.

Ryan, M. (2001). *'My Way to God': The birth and early demise of the kerygmatic renewal in Australian Religious Education. Journal of Religious Education*, *49*(1), 2-9.

Rymarz, R. (2013). Direct Instruction as a pedagogical tool in religious education. *British Journal of Religious Education*, *35*(3), 326-341.

Rymarz, R. (2019). Using resources in religious education: Insights into classroom practice Education. In Rymarz, R. & Starkey, P. (Eds.), *From theory to practice: Religious education in the classroom* (pp. 102-127). Mulgrave: Garrett.

Sweller, A. (2011). Cognitive load theory. *Psychology of Learning and Motivation*, *55*(2), 37-76.

Thomson, A., Bridgstock, R., & Willems, C. (2014). 'Teachers flipping out' beyond the online lecture: Maximising the educational potential of video. *Journal of Learning Design*, *7*(3), 67–78.

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