Aggregating digital resources in an e-learning platform: A case study of a Malaysian public university's compliance with copyright

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ABSTRACT

This study investigates the copyright issues that arise when course instructors aggregate digital resources in an e-learning platform, and how copyright concerns among instructors influence the approaches used by them in aggregating such resources. The objective of the study is to explore how the aggregation of digital resources in an e-learning platform may be optimized without infringing copyright in the digital content. The study was set up in a Malaysian public research university which had introduced an e-learning platform to its academic staff since 2003. It involved the following data collection techniques: survey questionnaires that were distributed to course instructors in various faculties of the university; semi-structured informal interviews with instructors; and observation of instructors' participation in training workshops on the use of the e-learning platform. Findings indicate that most course instructors have a general awareness of the copyright issues that are involved and, to some extent, this has influenced the approaches which they adopted when aggregating digital resources for their students. It was found that the use of linking and embedding were ways of aggregating digital resources in e-learning platforms which are consistent with copyright law. In addition, this paper suggests that institutions of higher learning should set up a website to provide guidance on possible approaches that could be adopted to aggregate digital resources in e-learning platforms in accordance with copyright law. The website should include information on how the fair dealing provision in the Copyright Act 1987 may be utilized in the teaching process.

Keywords: Aggregation of digital resources; E-learning; Copyright; Linking; Embedding; Fair use

INTRODUCTION

The advances in Internet technology for sharing and accessing information online have enabled web-based learning to take place and develop since the late 20th century. Technology teaching tools which were initially deployed largely for online courses or distance education purposes are now widely used to supplement the face-to-face mode of teaching. Through technology teaching tools, the teaching and learning process can be enhanced with the use of a network capable of connecting instructors and students, students and students, and students with global web materials (Malhan and Rao 2006). For years, the face-to-face teaching technique was the only method used in the teaching and learning process in most institutions of higher learning in Malaysia. This included the classroom lecture method and other interactive verbal techniques such as tutorials and seminars, which allow the instructor and student to engage in a dialogue session in order

to discuss in greater detail the contents dealt with in lectures (Raja Maznah and Sulaiman 2011; Seluakumaran et al. 2011). Today, most students entering institutions of higher learning grew up using computers and are routine users of these technologies. Indeed, many of them would expect information about their courses, whether offered through distance education or on-campus, to be available on some form of online course platform (Frand 2000).

All public institutions of higher learning in Malaysia are required under the National Higher Education Strategic Plan (2007) to make available e-learning platforms to their students. Towards this end, e-learning platforms have been put in place by institutions of higher learning in the country to facilitate online teaching activities. E-learning platforms are software packages that offer a prefabricated website which incorporates online tools that can be used by course instructors to execute different functions associated with e-learning education (Cole and Foster 2008). The main role of an e-learning platform is to supplement, and not to replace, the traditional face-to-face method of teaching by enabling the coordinated delivery of course materials and providing a channel for discussion among students and instructors (Meerts 2003). Currently, there are many examples of e-learning platforms in the world, such as *Blackboard, WebCT, Moodle, Sakai, Desire2 Learn, eFront, Ilias, Dokeos* and *ATutor*. One of the most popular ones is the *Moodle* platform because it is an open source software package which is free (Seluakumaran et al. 2011; Costa, Alvelos and Teixeira 2012; Jowati 2014; Petrovic et al. 2014). Although different e-learning platforms function slightly differently, most of them typically include tools that provide for the aggregation of digital resources, the delivery of students' assignments, the two-way communication between instructors and participants via discussion forums and chats, the sending of e-mail messages to the entire class or a subset of the class, the setting up of online quizzes and questionnaires, the creation of automated testing, the development of blogs, the management of multiple student groups, the tracking of students' participation, the carrying out of surveys to gather feedback from students and the recording of grades so that each student can view his grades (Costa, Alvelos and Teixeira 2012; Arora, Lihitkar and Roy, 2013; Fariha and Zuriyati 2014; Petrovic et al. 2014). It is also possible for course instructors to integrate in e-learning platforms additional specific tools to meet the needs of a particular course when teaching (Petrovic et al. 2014). For instance, when teaching an engineering course, the instructor may integrate tools that can carry out automatic checking and verifications of a student's laboratory work (Petrovic et al. 2014).

While e-learning platforms are useful to supplement the conventional teaching and learning process, the use of these platforms to deliver content to students through the aggregation of digital resources such as articles, books, excerpts, charts and research data raises copyright concerns. The reason for this is that copyright subsists in most instructional materials, whether in the form of articles, books, book chapters, sound recordings or visual images. Under section 13(1)(a) of the Malaysian Copyright Act 1987, the copyright owner of a work has the exclusive right to control the reproduction of the work. Essentially, this means that the copyright owner has the exclusive right to prevent others from making a copy of his work without his permission. The aggregation of digital resources by instructors which, inevitably, involves the uploading of such resources to the e-learning platforms for distribution to students involves making a copy of the work and, therefore, impinges upon the reproduction right of the copyright owner. The concern over copyright issues has been highlighted by some researchers as a reason for some instructors' reluctance to aggregate digital resources for distribution to their students (Solis and Hampton 2009; Raja Maznah and Gardner 2011).

The objective of this study is to explore how the aggregation of digital resources in an e-learning platform may be optimized without infringing the copyright in the works concerned. This issue is important because an instructor who infringes the copyright in another person's work will not only be liable for copyright infringement, but may also cause his institution to be indirectly liable for the infringement. The context of this study was an investigation of the awareness among instructors of the copyright principles that apply when aggregating digital resources in an e-learning platform, and the methods used by them in aggregating such resources in a public university in Malaysia that had introduced technological teaching tools to its academic staff since 2003. Two research questions are put forward: (a) To what extent are course instructors aware of the rights of copyright owners in aggregating digital resources in an e-learning platform? and (b) What methods are used by course instructors in aggregating digital resources in an e-learning platform? From the data obtained, the researcher then discusses whether the resource aggregation practices are consistent with copyright principles.

The next section of this paper is the literature review which describes the importance of e-learning in institutions of higher learning around the world, the general acceptance internationally of the benefits of implementing e-learning and the concerns raised about copyright issues in aggregating digital resources in an e-learning platform. At the same time, this section also highlights the emphasis which the Malaysian Government places on e-learning in Malaysian institutions of higher learning. This is then followed by another section which discusses the principles of copyright law that are relevant to the aggregation of digital resources in an e-learning platform. Subsequently, the methodology used to conduct the study is described, followed by a report on the findings and a discussion of whether the resource aggregation practices adopted by the instructors in the study comply with copyright law. The paper then concludes with some suggestions on possible approaches which could be adopted to guide instructors to act within copyright law when aggregating digital resources in an e-learning platform.

LITERATURE REVIEW

The rapid growth in information and communication technologies has brought numerous opportunities to enhance teaching effectiveness in institutions of higher learning around the world (Zhu et al. 2009; Hakkarainen et al. 2011; Stricker, Weibel and Wissmath 2011). Many institutions of higher learning around the world have either embraced e-learning or have taken serious steps to do so as a means to provide better learning environment (Shroff, Deneen and Ng 2011; Fong et al. 2014). The implementation of an e-learning platform facilitates the students' learning process, through the deployment of better-managed and controlled curricula, web-based learning materials, innovative pedagogical strategies and suitable assessment procedures (Mondi, Woods and Rafi 2007). The importance of e-learning as a means of achieving a better learning environment has also been discussed in a number of studies (Harris 2010; Palmer 2013). Additionally, Baran, Correia and Thompson (2013) noted that the attributes and functions of e-learning provide vast opportunities for course instructors to manage the online content and, at the same time, assist students to absorb knowledge better.

Realising the vast potential of e-learning in contributing to a better learning environment, the Malaysian Government has invested large amounts of resources in order to incorporate new technological tools, including e-learning technologies, in institutions of higher learning to improve the quality of teaching and learning. In August 2007, the

Government launched the National Higher Education Strategic Plan (2007) to propel forward developments in higher education. E-learning was identified as one of the Critical Agenda Projects to improve the quality of teaching and learning. In April 2011, the Government launched the National e-Learning Policy to provide directions for the implementation of e-learning and to require all education providers to embrace e-learning. Embi (2011) reported that a study on 26 institutions of higher learning in the country revealed that all of them had in place an e-learning platform, with 57.7% adopting the open source system known as *Moodle*, which is an acronym for Modular Object-Oriented Dynamic Learning Environment, as the main e-learning platform for their courses.

A study conducted on the integration of e-learning into the teaching of a medical physiology course to a group of first-year students in the Bachelor of Medicine and Bachelor of Surgery program at the University of Malaya revealed that such integration had improved students' performance in their final examination, which suggested that e-learning had a positive impact on student learning outcomes (Seluakumaran et al. 2011). In the USA, with regard to the use of e-learning for legal education, Hemingway (2006) stated that benefits inure to both academic staff and students who used e-learning as a means of teaching and learning. According to the study, the web-centered collaboration facilitated by e-learning software provided academic staff and students with more ways to communicate about the subject matter of the course. The effect was to transform the classroom experience to beyond the classroom. In a similar vein, Newman (2005), who conducted a survey of TWEN (The West Education Network that provides course-building software) usage by academic staff at Pace University School of Law, New York, concluded that the use of e-learning not only facilitated communication with students but also provided a highly convenient way for students to retrieve materials such as course syllabi and assignments online. Further, Broussard (2008), who is a professor of legal research at New York Law School, noted that embracing technology to develop new educational models for presenting the law curriculum was the only viable option for moving forward.

While there is a body of literature suggesting that the integration of e-learning into the teaching and learning process is beneficial to students and academic staff, concerns over copyright issues in the aggregation of digital resources have also been noted in a number of research papers. Raja Maznah and Gardner (2011) wrote that the "responsibilities imposed upon lecturers are perceived to be heavy and demanding, especially when they worry about the copyright issues related to uploading of course materials" (para 3.1.4). Similarly, in a study that investigated the factors which enabled as well as impeded the adoption of e-learning by academic staff in a large, multi-campus, urban Australian university, Samarawickrema and Stacey (2007) reported that concerns in the areas of intellectual property and copyright of materials were deterrents to the successful adoption of web-based learning. Potential legal problems relating to copyright law of the US were also mentioned by Solis and Hampton (2009) who pointed out that digital resource that were aggregated on *Blackboard* sites by professors who overestimated the rights that they had over the educational use of copyrighted materials could pose a potential legal problem for the university. According to the study, many professors erroneously believed that the law allowed unlimited use of copyrighted materials for educational use.

The copyright constraints imposed upon an instructor when posting digital resource materials on a website were also addressed in a study by Hunter (2005). Hunter pointed out that a person who was not the copyright owner of a resource material did not have the legal right to post the work to a website because the act infringed the reproduction right of the copyright owner. He related his experience of posting three of his articles to the Social

Science Research Network's (SSRN) website when, as the author of those articles, he had earlier assigned the copyright in them to the publisher, who was the California Law Review. The law review, as copyright holder, had asked SSRN to remove the articles which Hunter had posted on the ground that he was not the copyright owner. Although he was the author, he had no right to reproduce those articles and post them to SSRN's website. As a result of this, Hunter advocated that scholarly work should be made available on an open access basis which would be made free to readers.

In a similar vein, Hampton (2003) analyzed the legal obstacles associated with the use of new technologies in teaching and opined that copyright law had "the potential to stifle creativity in the law classroom and make the job of introducing the Twenty-First Century to the classroom much more difficult than need be."(p. 230). He also stressed that instructors who wished to introduce new technologies to the learning environment should be careful to tread within the boundaries of copyright law and comply with the fair dealing exception when reproducing copyrighted materials. The article by Fry (2004) cautioned against assuming that content which were authored by teaching staff of a faculty could be appropriated by that faculty for its e-learning program without obtaining prior copyright permission from the teaching staff concerned. The teaching staff who authored the content had to consent to the aggregation of the material in an e-learning platform.

The need for copyright law to be developed in order to facilitate learning through digital technologies was also highlighted by another American scholar, Gasaway (2001), who studied the problems posed by copyright law for web-based learning. Gasaway stated that educational institutions continued to experience difficulty in obtaining reasonable licenses for the use of certain types of work in digital format for distance learning courses. She recommended that the US Copyright Act 1976 be amended to facilitate distance learning through digital technologies.

Despite the recognition that there are copyright issues arise when aggregating digital resources in an e-learning platform, to-date there has not been any study conducted on the awareness of instructors in Malaysia with regard to the limitations placed by copyright law in aggregating such content. This study attempts to bridge this gap in literature and provides suggestions as to how instructors may aggregate digital resources in e-learning platforms without infringing copyright law.

COPYRIGHT PRINCIPLES RELEVANT TO THE AGGREGATION OF DIGITAL RESOURCES

Copyright deals with the legal protection that is conferred on original expressions of creative authorship. So long as a work is original in the sense that it originates from the author and not copied from elsewhere, copyright is conferred on that work irrespective of its aesthetic quality or merit. The expression must be fixed in a material form, such as in writing, recorded, stored in a CD-ROM or on the hard-disk of a computer. The protection covers only the expression of an idea but not the idea itself.

In Malaysia, the statute that regulates copyright protection is the Copyright Act 1987 ('CRA 1987'). Section 7(1) of CRA 1987 states that literary works, musical works, artistic works, films, sound recordings and broadcasts are works which are eligible for copyright protection. The works may originate in electronic form, such as contents from the library's electronic databases and the Internet including YouTube, or in non-electronic form such as

excerpts from books or articles which are scanned and saved electronically. The copyright term for literary, musical and artistic works is the life of the author plus 50 years after his death.

Section 3 of the CRA 1987 states that no copyright exists in official texts of the Government or statutory bodies, court decisions, political speeches, political debates, speeches delivered in the course of legal proceedings and their official translations. Apart from this, works which fall in the public domain are also not protected by copyright. A work may be in the public domain because its copyright term has expired or it has been assigned to the public domain by its copyright owner, usually by using the Creative Commons' Public Domain marks or other Open Source systems which expressly allow a work to be made available on the Internet and elsewhere. Works which do not enjoy copyright may be copied or distributed freely without infringing copyright law. It should be noted that the fact that content is placed on the Internet and, hence, accessible by any Internet user does not mean that there is no copyright in the content. Instead, digital works enjoy copyright protection to the same extent as works in print form.

The copyright owner is given some exclusive rights to control the carrying out of specific acts in Malaysia in relation to his work. Of these rights, the right to control the reproduction of a copyright work and the right to communicate the work to the public are two important rights which are particularly relevant when aggregating digital resources in an e-learning platform.

Exclusive Right of the Copyright Owner: Reproduction Right

The reproduction right is the exclusive right to control the making of copies of the work in any form or version. This right extends to making a copy of the work in a medium different from the original such as the making of a CD copy of a piece of music which originated in cassette form. The right to control the reproduction of a work encompasses not merely the identical copying of a work as in the case of a photocopy of a book, but also extends to the non-identical copying of the work as in the case when the contents of a book are scanned and saved electronically on a CD-ROM. In aggregating digital resources in an e-learning platform for students, the instructor is essentially making a reproduction of the works which is an activity within the control of the copyright owners of the works.

The reproduction right encompasses not only the copying of the whole copyright work but also a substantial part of it. In determining whether a part of a work is substantial, the quantity as well as the quality or significance of the part taken compared to the whole copyright work is considered.

Where the instructor is the author of the resource materials, he is the copyright owner of the works and can therefore reproduce the works by aggregating such resources in an e-learning platform. This applies only if he has not assigned the copyright in the work to a third party, which sometimes happens when the instructor sends his work for publication and the publication agreement between him and his publisher requires the assignment of copyright to the latter. There may also be situations where the instructor reserves the right to use the work for his own teaching purposes, in which case he may legitimately aggregate those resources in an e-learning platform. In the absence of this reservation, permission to aggregate the digital resources must be obtained from the publisher, as the new copyright owner.

Exclusive Right of the Copyright Owner: Communication to the Public Right

Apart from the reproduction right, the aggregation of digital resources in an e-learning platform also involves the communication to the public right. This right confers on the copyright owner the exclusive right to control the transmission of a work through wire or wireless means to the public. When aggregating digital resources in an e-learning platform, such resources are in effect communicated on-line to the students in such a manner that they may access the work, from a place and at a time individually chosen by them.

Exception to Copyright: Fair Dealing

Pursuant to section 13(2)(a) of the CRA 1987, the doing of any act within the exclusive rights of the copyright owner, if done by way of fair dealing including for purposes of research, private study, criticism, review or the reporting of news or current events, does not constitute copyright infringement. In determining whether a dealing is 'fair', section 13(2A) spells out four factors to be taken into account, which are as follows:

(a) the purpose and character of the dealing, including whether such dealing is of a commercial nature or is for non-profit educational purposes;
(b) the nature of the copyright work;
(c) the amount and substantiality of the portion used in relation to the copyright work as a whole;
(d) the effect of the dealing upon the potential market for or value of the copyright work.

Section 13(2)(a) requires that an acknowledgement of the title of the work and its authorship should accompany the use of the copyright work. This fair dealing provision allows course instructors to make reasonable limited use of a copyright work when aggregating digital resources in an e-learning platform.

METHODOLOGY

This is a qualitative study. The setting of this study is a public research-designated university based in Kuala Lumpur which has introduced the use of an e-learning platform to its academic staff since 2003. It is among the earliest universities in the country to implement e-learning in the teaching of its courses. E-learning development and support was tasked to two centres at the University. One of the centres provides the technical support system while the other supports the pedagogical aspects of e-learning in the form of training to instructors. Recently, the University has made it compulsory for all its instructors to integrate e-learning in their undergraduate courses.

The data collection method used in this study was primarily through a survey questionnaire and semi-structured interviews which were administered to instructors from 7 April to 28 April 2014. The surveys and interviews were designed to provide feedback on four aspects. The first is to determine the extent to which instructors use e-learning in the course of teaching. The second is to obtain data on the types of resources which instructors aggregate in an e-learning platform, for instance, course syllabus, articles, papers, cases, power point presentations, videos, images, sounds etc. The third is to obtain feedback on the awareness of instructors on the rights of copyright owners in works which are aggregated in an e-learning platform. The fourth is to elicit information on the methods used by instructors in aggregating digital resources.

Print copies of the survey forms were distributed to 65 instructors and electronic copies were sent by e-mails to a further 23 instructors from five faculties at the University. Of the five faculties, three were from the science-based faculties (Faculty of Engineering, Faculty of Medicine and Sports Centre) while two were from social science faculties (Faculty of Law and Faculty of Business and Accountancy). The convenience sampling and snowball sampling methods were used for this purpose. As this is an exploratory research, the convenience sampling method was thought to be suitable while the snowball sampling method enabled the researcher to obtain referrals to instructors from other faculties. Participation in the survey was on a voluntary basis. Confidentiality and anonymity were clearly stated in the cover letter accompanying the survey forms. The survey questionnaire comprised eight questions which dealt with the following four matters: (a) whether the instructor uses e-learning in the teaching process and, if so, whether he aggregates digital resources in the e-learning platform? (b) what types of resources does the instructor aggregate in the e-learning platform? (c) how does the instructor rate his awareness of copyright issues when aggregating resources in an e-learning platform? (d) what methods does the instructor use to aggregate digital resources in the e-learning platform? On this the first three matters, three options were given, namely, fully aware of the issues, somewhat aware of the issues and not aware of the issues. A copy of the survey questionnaire is attached as Appendix A.

By the deadline for the return of the survey forms, which was on 28 April 2014, a total of 42 survey responses were obtained which represented a 48% response rate based on the total number of survey forms distributed physically and through e-mails.

Apart from the survey questionnaire, semi-structured face-to-face interviews were set up with five instructors. None of these were the respondents to the survey. The instructors were selected on a purposive method based on the researcher's personal knowledge that they were active users of web-based approaches to teaching. Three of the instructors were teaching in the social science disciplines while two of them were teaching in the science-based discipline. For the purpose of the interviews, the researcher classified active users as those who integrated more than one feature of the e-learning platform for the teaching of their courses. The researcher obtained the consent of the interviewees, who were full-time teaching academics at the University, to participate in the study prior to conducting the interviews. This was done either by the researcher personally approaching the targeted interviewee or making a telephone call to him. The interviews, which lasted between 20 to 25 minutes, were conducted on an informal basis at the instructors' office locations. The profile of the instructors is reported in Table 1.

Table 1: Profiles of Interview Participants

Instructor*	Age	Discipline	Years as university academic	Years adopted e-learning
Associate Professor A	48	Social Science	22	1
Senior lecturer B	50	Social Science	24	1
Senior lecturer C	43	Science	20	3
Senior lecturer D	38	Science	9	2
Lecturer E	33	Social Science	5	2

*The identities of the instructors are not disclosed for confidentiality reasons

The interview questions also focused on the four matters dealt with in the survey questionnaire mentioned above and, additionally, enabled the researcher to deepen her understanding on two further issues. First, the interviews allowed the researcher to have a better understanding of the reasons that motivated the instructors to aggregate digital resources in an e-learning platform and, secondly, they provided the researcher with the opportunity to view the web pages of the instructors' e-learning website in order to better appreciate the types of resources which were frequently aggregated and the methods used to aggregate them in the e-learning platform. Following each interview, the researcher was shown the web page of the interviewees which contained the aggregated digital resource materials. At the same time, the interviewees explained instances of the resources, such as those that originated from printed materials that were scanned into digital format, video clips and images. A copy of the interview guidelines is attached as Appendix B.

This researcher also attended two training sessions conducted by the University on how to integrate e-learning into the teaching process in 2012 and 2013. This enabled the researcher to observe the participants' concerns of the copyright issues that plagued them in the course of aggregating digital resources in the e-learning platform. As the convenience sampling and snowball sampling methods were used to distribute the survey forms, the researcher is unable to confirm whether and, if so, how many of the participants in the two training sessions also received the survey forms.

FINDINGS

The findings of this study are described based on the four matters stated above which formed the substantive content of the survey questionnaire and interviews.

With regard to the first matter, that is, the extent to which the instructor uses e-learning in the teaching process, questionnaire responses revealed that, except for one instructor, all the other instructors integrated e-learning into their teaching and they found that aggregating digital resources in the e-learning platform was a useful means of disseminating information to their students. A number of reasons have been suggested for the widespread adoption of this practice. The ease in which the e-learning platform enabled the aggregation of digital resources to take place played an important factor in the decision to adopt this practice.

The availability of the aggregation of digital resources feature meant that printed or photocopied materials need not be made which, therefore, alleviated the extra financial and non-financial burden on the University and students. Prior to adopting the practice of aggregating digital resources in an e-learning platform, hardcopy handouts of course syllabi and PowerPoint lectures were distributed to students and this resulted in inconveniences and inefficiencies for the faculty's supporting staff as well as students who found that they had accumulated a lot of paper over the course of the semester. In addition, this feature allowed instructors to include multimedia presentations, such as cartoons and movie extracts, to enliven their lessons. A further reason for the widespread adoption of the practice of aggregating digital resources is the consequence of pressure from the University's administration. Since the year 2013, the University has made it compulsory for its entire academic staff to integrate e-learning into their courses. This is one of the Key Performance Indicators for the University's academic staff. Each academic staff is required to show that at least one of their courses is active on the e-learning platform.

A total of 41 out of the 42 survey responses, which represented 97% of those surveyed, stated that the first feature which they experimented with when first introduced to the e-learning platform was the aggregation of resources in the form of their PowerPoint lectures, course syllabi and lecture notes for their students. All the five interviewees also stated that the aggregation of digital resources in the e-learning platform was the first feature that they used. A total of 24 out of the 42 survey responses, or 57% of those surveyed, reported that apart from the aggregation of digital resources feature, they also adopted other features in their e-learning teaching, such as the delivery of assignments by students, forums, sending of announcements to students and designing quizzes. In so far as the interviews are concerned, three of the interviewees employed the tutorial group registration, sending of announcements, setting up of quizzes and delivery of assignments features in addition to the aggregation of digital resources feature. The other two interviewees adopted only the sending of announcements and delivery of assignments features apart from the aggregation of digital resources feature.

With regard to the second matter, that is, the types of resources that instructors aggregate in the e-learning platform, the findings from both the survey and interviews indicate that the materials which were aggregated by instructors were of four different types. These were materials in the form of text (including Word document, PowerPoint and web pages), images, sounds and videos. Of the 42 survey responses, 30 of them, or 71%, stated that they limited themselves to materials in the form of text only. The three interviewees from the social science discipline also stated that a large proportion of the resources which they aggregated in the e-learning platform comprised content in the form of text but, where relevant, they would also aggregate video clips and audio files. The other two interviewees from the science discipline noted that content in the form of text and images were equally important when they aggregated resources.

The third matter which deals with the extent to which instructors were aware of copyright issues when aggregating digital resources in an e-learning platform, and the fourth matter on the methods used to aggregate digital resources are framed as Research Question 1 and Research Question 2 respectively, and discussed accordingly, because they form the main thrust of this study.

Research Question 1: To what extent are course instructors aware of the rights of copyright owners in aggregating digital resources in an e-learning platform?

Instructors were asked how they rated their awareness of the rights of copyright owners in aggregating digital resources in the e-learning platform. A total of 3 (7%) survey responses, said that they were fully aware of the issues involved while 32 (76%) of them, indicated that they were somewhat familiar with the copyright issues that were involved and were careful to abide by copyright principles when aggregating digital resources in the e-learning platform. However, they were unclear as to the extent to which copyright law permitted them to use copyright materials online for their students. It was clear from the responses to the survey that instructors thought it was necessary for the University to provide more clarity and certainty to course instructors of the extent to which they can aggregate digital resources without infringing copyright law. The findings also indicated that as a result of the consciousness about copyright issues, instructors have been cautious and, at times, hesitant in aggregating digital resources. For instance, two survey respondents stated that the resources which they aggregated to the e-learning platform were confined to those in which they were the author or co-authors because they "just preferred to be safe" and "to avoid any possible dispute on copyright."

The following are some of the remarks which were elicited from the responses to the survey that demonstrated the sentiments of instructors (labelled V, W, X, Y) when aggregating digital resources in the e-learning platform:

Lecturer V noted: "The University should have a policy or guidelines on this matter to keep the teaching staff well-informed and aware of the acceptable practice."

Lecturer W noted: "Guidelines of fair use of copyright materials should be provided to academic staff."

Senior lecturer X noted: "Maybe, lecturers need to be exposed to issues relating to copyright, like a short course or workshop."

Professor Y noted: "The University or the centre that provides support and training to academic staff on the use of e-learning should look at the resources that are aggregated and tell us whether these resources infringe copyright."

Senior Lecturer C, in an interview stated that there were some materials which were out of print or not available in the country but which she would like to use as reading materials for her course. For such materials, she would scan and then include them as part of the digital resources which she aggregated for her students. All the five interviewees said that they had some basic awareness of copyright principles. They agreed that copyright issues pose a challenge in their effort to provide relevant and interesting resources for their students and have impacted on their freedom to aggregate digital resources in the e-learning platform.

In a training workshop on the use of e-learning held by the University in 2012 which the researcher attended, an instructor queried whether it was possible to download and save journal articles available from the electronic databases subscribed by the University and then aggregate those digital resources in the e-learning platform for his students. According to him, a number of electronic databases could only be accessed so long as the user was on campus but could not be accessed if he was off-campus. The advantage of aggregating digital resources in an e-learning platform was to enable him and his students to access the materials when at home or at an off-campus location.

In the same workshop, a course instructor from the medical science discipline said that he had been downloading slides from the Internet which he found interesting and relevant to his course and, these became part of the resources which he aggregated for his students in the e-learning platform. However, he was unsure whether he had infringed any copyright law in so doing.

Research Question 2: What methods are used by course instructors in aggregating digital resources in an e-learning platform?

A number of methods are adopted by course instructors in aggregating digital resources in an e-learning platform, depending on the types of the resources involved.

(a) Text

Where the resources are in the form of text, 38 (90%) instructors surveyed responded that they would select the part or parts of the materials which were relevant and save the selected parts in files according to the subject matter. The files would then form part of the aggregated digital resources in the e-learning platform. Apart from this approach, two instructors surveyed indicated that they would save the whole content of each resource material in individual files and aggregate those materials in the e-learning platform. If the

text was not in digital form, they would scan a copy of the text, save it in a file which would then form part of the aggregated digital resources in the e-learning platform.

Another approach adopted by course instructors to disseminate information to their students is to provide a link to the website or embed the file using the embed link provided by the owner of the resources concerned. A link is a pointer, which is a Hypertext Markup Language code, embedded into a web page that allows users to navigate to an online document specified by the web designer.

The survey questionnaire also asked whether any of the instructors ever sought prior permission from the copyright owner to use the whole of the content for teaching purposes. The findings indicated that no respondent had ever sought prior copyright permission when aggregating digital resources in an e-learning platform. This was also the response of all the five interview participants. Four (8%) out of the survey 42 respondents stated that they would, prior to aggregating digital resources in an e-learning platform, verify whether the copyright owner had given any type of license, such as the Creative Commons license, to the use of the materials or whether the work was in public domain.

(b) Images, videos and sounds

Questionnaire responses showed that course instructors who aggregated resources in the form of images, videos or sounds utilized the linking and embedding technology for this purpose. Sites hosting videos often enable users to embed videos so that users can watch the video without leaving the page. For instance, the major video streaming site, YouTube, allows its files to be embedded in other websites by using its Embeddable Player feature.

DISCUSSION ON WHETHER THE RESOURCE AGGREGATION PRACTICES ARE CONSISTENT WITH COPYRIGHT PRINCIPLES

Text

The practice by instructors of selecting only those parts of the resources which are relevant and then saving into their respective files is legally permissible as it would fall within the fair dealing provision in section 13(2)(a) of the CRA 1987. As was mentioned in the section on copyright principles above, provided that the parts which are saved in the files are short excerpts or insubstantial portions of the work, the fair dealing provision is sufficiently broad to encompass this practice. The instructor is additionally required to acknowledge the title of the work and its authorship.

The practice of saving the whole content of the work in a file or scanning the whole work and then aggregating them in the e-learning platform is clearly an infringement of copyright. The copyright owner of a work has the exclusive right to control the making of copies of his work without his permission, which includes making a copy or scanning the entire work in a file. Accordingly, both these methods of aggregating digital resources should be avoided unless prior permission from the copyright owner is obtained.

In the case where digital resources are aggregated from contents located in the electronic databases subscribed by the University, it should be noted that the licensing arrangement between the University and some electronic databases allows the reproduction and distribution of texts retrieved through the databases for internal or personal use only. However, the databases which grant such licenses are few and the licenses given are usually confined to the reproduction of insubstantial portions of the work. Such databases

include EBSCO Host, Westlaw, ABI/INFORM and LexisNexis. The majority of the databases subscribed do not permit the distribution of the work even if done internally. These include Emerald, American Institute of Physics Journal, HeinOnline, Ovid and Computing Reviews.

Where instructors provide links to the websites that store the digital resources or use the embed link provided by the website owner, the act does not involve the reproduction of the resource material. By providing a link in the e-learning platform to the resource material on the Internet, an instructor can enable his students to be connected to pages from other websites without creating any copy in the process. Since the linking site does not store the linked site's information but merely directs the user to that information, no reproduction of the copyright material takes place. Although a transient electronic copy of the work is made available on a temporary directory, the CRA 1987 excludes such transient copies from being infringing copies because the making of such copies is required for the viewing of the work. Accordingly, such a practice does not infringe any copyright law.

Images, videos and sounds

The use of linking and embedding technology in aggregating digital resources in the form of images, videos or sounds does not involve the reproduction of the resource materials concerned. The video remains with the site hosting it and is streamed from that site. This does not involve making any copy of the video, image or sound on the e-learning platform and, hence, does not infringe copyright in the work.

RECOMMENDATIONS

The findings of this study indicated that the majority of instructors had at least some basic awareness and respect for the copyright of others. However, there is an evident lack of certainty among instructors on how they may optimally use the aggregation of digital resources feature without infringing copyright law. Therefore, it is recommended, firstly, that educational institutions should set up a website which provides guidelines to instructors so that they understand, in the context of copyright obligations, the options that are available to them when aggregating digital resources in an e-learning platform. These guidelines will equip instructors with a more in-depth knowledge on the types of acts that are permissible when aggregating digital resources in an e-learning platform. Secondly, it is recommended that training workshops which are conducted to teach academic staff on the use of e-learning should incorporate a component on copyright awareness and compliance when aggregating digital resources in an e-learning platform. Thirdly, it is recommended that the current practice of linking and embedding contents which is adopted by some instructors should be encouraged because these activities are consistent with copyright law. Finally, it is recommended that the fair dealing provision in the CRA 1987, which provides an exception to copyright infringement, should be more widely used by course instructors. Detailed information on the scope of the fair dealing provision could be included in the website suggested above.

CONCLUSION

This study examined the impact of copyright law on the way in which course instructors aggregate digital resources in an e-learning platform in the course of teaching. The findings revealed that copyright law impacted on course instructors' uptake of the aggregation of digital resources feature in an e-learning platform. The instructor's decision on the types of

resources that are aggregated and the methods used to aggregate them are influenced by their concerns with the need to comply with copyright law. The study showed that some methods used to aggregate digital resources are in compliance with copyright law while others are not. The methods which comply with copyright law and those which do not have been discussed above, and it demonstrates that there is a role which institutions of higher learning need to play to guide instructors on an understanding of the limits of permissible acts.

While the context of the above discussion revolves around Malaysian copyright law, the same issues regarding copyright infringement and the effect of copyright principles on the aggregation of digital resources in an e-learning platform apply equally in other countries. This is because the copyright law in other parts of the world is premised on the obligations under either one or both of the international agreements known as the Berne Convention for the Protection of Literary and Artistic Works 1886 or the Agreement on Trade Related Aspects of Intellectual Property Rights. For this reason, the issues raised in this study are equally relevant in the e-learning systems of other countries. As this is an exploratory study to obtain a preliminary picture of the impact of copyright law on the aggregation of digital resources in an e-learning platform, the findings are limited by the rather small sample size of the survey respondents and the interviewees. Future studies could revisit the issues raised in this study and investigate, with a larger sample of instructors, a more detailed landscape of the copyright concerns and reflect on other innovative methods of complying with copyright law with the view of promoting the success in the use of the aggregation of digital resources feature of the e-learning platform.

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REFERENCES

Arora, D., Lihitkar, S. and Roy, P. 2013. Virtual learning environment with open source software: MOODLE. *International Journal of Information Dissemination and Technology*, Vol. 3, no. 4: 254-259.

Baran E., Correia, A. and Thompson, A.D. 2013. Tracing successful online teaching in higher education: Voices of exemplary online teachers. *Teachers College Record,* Vol. 115, no. 3: 1-41.

Broussard, C. 2008. Teaching with technology: Is the pedagogical fulcrum shifting? *New York Law School Law Review,* Vol. 53: 903-915.

Cole, J. and Foster, H. 2008. *Using Moodle: Teaching with the popular open source course management system,* 2nd ed. California: O'Reilly Media: 1-2.

Copyright Act 1987 (Act 332).

Costa, C., Alvelos, H., and Teixeira, L. 2012. The use of Moodle e-learning platform: a study in a Portuguese University. *Procedia Technology*, Vol. 5: 333-343.

Embi, M.A. (ed). 2011. E-Learning in Malaysian higher education institutions: Status, trends, and issues. Kuala Lumpur: Ministry of Higher Education.

Fariha, Z. and Zuriyati, A. 2014. Comparing Moodle and eFront software for learning management system. *Australian Basic and Applied Sciences*, Vol 8, no. 4: 158-162.

Fong, R.W., Lee, J.C., Chang, C., Zhang, Z., Ngai, A.C. and Lim, C. P. 2014. Digital teaching portfolio in higher education: Examining colleagues' perceptions to inform implementation strategies. *Internet and Higher Education*, Vol. 20: 60-68.

Frand, J.L. 2000. The information age mindset: Changes in students and the implications for higher education. *EDUCAUSE Review,* 15-24. Available at: http://net.educause.edu/ir/library/pdf/erm0051.pdf.

Fry, R. 2004. Copyright issues in e-learning. *Copyright & New Media Law Newsletter*, Vol. 8, no.2: 3-6.

Gasaway, L.N. 2001. Distance learning and copyright. *Ohio State Law Journal*, Vol. 62: 783-820.

Hakkarainen, K., Lallimo, J., Toikka, S. and White, H. 2011. Cultivating collective expertise within innovative knowledge-practice networks. In Ludvigsen, S., Lund, A., Rasmussen, R. and Saljo, R (Eds) *Learning across sites: new tools, infrastructures and practices,* Oxon: Routledge, 69-85.

Hampton, A. 2003. Legal obstacles to bringing the twenty-first century into the law classroom: Stop being creative, you may already be in trouble. *Oklahoma City University Law Review*, Vol. 28: 223-249.

Harris, L. 2010. Electronic classroom, electronic community: Designing eLearning environment to foster virtual social networks and student learning. In Martin, J and Hawkins, L, eds, *Information Communication Technologies for Human Services Education and Delivery: Concepts and cases*, New York: IGI Global, 87-104.

Hemingway, J.M. 2006. Caught in (or on) the Web: A Review of Course Management Systems for Legal Education. *Albany Law Journal of Science & Technology*, Vol. 29, no. 2: 265-309.

Hunter, D. 2005. Walled gardens. *Washington & Lee Law Review*, Vol. 62: 607-640.

Jowati, J. 2014. Perceived usefulness and ease of use of the learning management system as a learning tool. *International Education Studies*, Vol. 7, no. 8: 23-34.

Malaysian Ministry of Higher Education. 2007. *National Higher Education Strategic Plan.* Available at: http://www.mohe.gov.my/transformasi/images/Bab1.pdf.

Malhan, I.V. and Rao, S. 2006. The networked information environment: Implications for education of library and information professionals. *Malaysian Journal of Library & Information Science,* Vol. 11, no. 1: 75-88.

Meerts, J. 2003. Course management systems (CMS). *EDUCAUSE Evolving Technologies Committee. Wesleyan University.* Available at: https://net.educause.edu/ir/library/pdf/DEC0302.pdf.

Mondi, M., Woods, P. and Rafi, A. 2007. Students' 'uses and gratification expectancy': conceptual framework in relation to e-learning resources. *Asia Pacific Education Review*, Vol. 8, no. 3: 435-449.

Newman, M.S. 2005. Not the evil TWEN: How online course management software supports non-linear learning in law schools. *Journal of High Technology Law,* Vol. 5: 183-233.

Palmer, M. 2013. Department: The next big thing in continuing legal education. *The Vermont Bar Journal & Law Digest*, Vol. 39: 31-36.

Petrovic, N., Jeremic, V., Cirovic, M, Radojicic, Z., and Milenkovic, N. 2014. Facebook versus Moodle in practice. *American Journal of Distance Education*, Vol. 28, no. 2: 117-125.

Raja Maznah, R.H. and Gardner, R. 2011. Supporting e-Learning: Staff Development Lessons from University of Malaya and University of Bristol. *Issues in Education (Special Edition):* 19-26.

Raja Maznah, R.H. and Sulaiman, A.H. 2011. E-Learning strategies in Malaysian higher education institutions, In: Matthew Piscionery, ed, *Effectively Implementing*

Information Communication Technology in Higher Education in the Asia-Pacific Region. New York: NOVA Science Publishers, Inc: 91-100.

Samarawickrema, G. and Stacey, E. 2007. Adopting web-based learning and teaching: A case study in higher education. *Distance education*, Vol. 28, no. 3: 313-333.

Seluakumaran, K., Jusof F.F., Ismail, R., and Husain, R. 2011. Integrating an open-source course management system (Moodle) into the teaching of a first-year medical physiology course: a case study. *Advances in Physiology Education*, Vol. 35: 369-377.

Shroff, R.H., Deneen, C.D. and Ng, E.M. W. 2011. Analysis of the teaching acceptance model in examining students' behavioural intention to use an e-portfolio system. *Australasian Journal of Educational Technology*, Vol. 27, no. 4: 600-618.

Solis, J. and Hampton, E.M. 2009. Promoting a comprehensive view of library resources in a course management system. *New Library World*, Vol. 110: 81-91.

Stricker, D., Weibel, D., and Wissmath, B. 2011. Efficient learning using a virtual learning environment in a university class. *Computers & Education*, Vol. 56, no 2: 495-504.

Zhu, C., Valcke, M., Schellens, T. and Li, Y. 2009. Chinese students' perception of a collaborative e-learning environment and factors affecting their performance: implementing a Flemish e-learning course in a Chinese educational context. *Asia Pacific Education Review*, Vol. 10: 225-235.

APPENDIX A:

SURVEY QUESTIONNAIRE ON COPYRIGHT COMPLIANCE WHEN AGGREGATING DIGITAL RESOURCES IN AN E-LEARNING PLATFORM

1(i). Do you use e-learning in the teaching of your course?

a. Yes
b. No

If your answer to this question is 'no', please indicate the reason and proceed to answer Questions 7 and 8:

a. I am not familiar with the use of the e-learning platform
b. I do not believe that the e-learning platform can contribute to the teaching and learning process
c. Others. Please specify._____

(ii) What was the first feature of the e-learning platform that you used for the teaching of your course?

(iii) Why did you adopt that feature?

(iv) What other features in the e-learning platform do you adopt?

2. Do you aggregate digital resources (eg course syllabus, articles, papers, cases, power point presentations, videos, images, sounds) to an e-learning platform for your students?

a. Yes
b. No

If your answer to this question is 'yes', please state the reason(s) that motivated you to aggregate digital resources in the e-learning platform.
If your answer to this question is 'no', please indicate the reason and proceed to answer Questions 7 and 8:

a. My students already have the materials or have access to the materials in the library
b. I would like my students to conduct their own research for relevant materials
c. I do not have the time
d. I am concerned with copyright issues that may arise
e. Others. Please specify

3. With regard to the aggregation of digital resources in the e-learning platform, please indicate which one of the following options is most applicable to you.

a. I aggregate only materials of which I am the author or co-author. Please provide the reason
b. I aggregate only materials of which I am not the author or co-author
c. I aggregate materials which are relevant for the course regardless of whether or not I am the author of co-author

4. What type(s) of digital resources do you aggregate in the e-learning platform?

a. Text
b. Image
c. Sound
d. Video
e. Others. Please specify.

5. If you aggregate materials in the form of text and you are NOT the author or co-author, please indicate which of the following option(s) are applicable to you

a. I would save the whole content of each work in different files and aggregate them in the e-learning platform

b. If the texts are not in digital form, I would scan a copy of each work in different files and aggregate them in the e-learning platform

c. I would select the part or parts of the materials which are relevant, save the selected parts in files according to the work and aggregate them in the e-learning platform

d. I would obtain prior permission from the copyright owner

e. I would check whether the copyright owner has given any type of license (e.g. Creative Commons license) to the use of the materials

f. I would check whether the work is in the public domain

g. Others. Please specify.

6. If you aggregate digital resources in the form of video/sound/image, please explain briefly the method you use (e.g. linking, embedding etc.)

7. How would you rate your awareness of copyright issues when using instructional materials in the course of teaching or, if applicable, when aggregating digital resources in an e-learning platform?

a. Fully aware of the issues
b. Somewhat aware of the issues
c. Not aware of the issues

8. Any comments which you think may be relevant to this research.

APPENDIX B:

INTERVIEW GUIDELINES USED IN SEMI-STRUCTURED INTERVIEWS WITH INSTRUCTORS

1. Can you tell me about your experience with e-learning in the teaching process? How long have you been using e-learning?
2. What persuaded you to use the e-learning platform?
3. What features of the e-learning platform do you use? How often do you use them? Why do you choose to use them?
4. What types of materials or resources do you usually aggregate in the e-learning platform?
5. Are the types of materials or resources which you aggregate dependent on the course you teach?
6. Are you aware of the copyright issues that may arise when aggregating resources in an e-learning platform? If so, can you describe how the copyright issues impact on your decision whether or not to aggregate certain resources in the e-learning platform?
7. Can you explain the methods you use to aggregate resources in the e-learning platform?
8. Can you take me on a tour of your e-learning web page?