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Online Originality Checking and Online Assessment - an Extension of Academics or Disruption for Academics

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Abstract: There are many computer technologies being used in modern higher education. However, an investigation of when technology becomes extension of academics or disruption for academics is necessary to find out the key concerns about both the pedagogical use of technology and underachievement in the pedagogical use of technology. The paper discusses the key findings of a pilot research project, the academic experiences for an innovative online originality checking and assessment system". Academics from 4 faculties in the University of Glamorgan have provided experience sharing of both positive and negative experience of the system. The main finding is that such an excellent tool did enhance learning and assessment experience. Academics, regardless of their technological competence, experienced an innovative end-to-end online submission and assessment which eliminated the frustration of storing uncollected or unread assignment feedback, a speeding up of the assessment process and were provided with a flexible marking facility. Interestingly, "computer technology as an extension of academics" only realise when priority is given to the pedagogy over technology; whereas "computer technology is a disruption for academics" when sole focus is given to the technology.

Keywords: online assessment, technology enhanced learning, higher education, pedagogy and education

Introduction

There are many computer technologies available in higher education, however, Pelletier [1] argues that sometimes pedagogy has been overlooked. Taylor [2] points out that most often technology is shaping pedagogy but pedagogy is not shaping technology in learning. Thus, there is a need to investigate pedagogy is shaping the use of technology and vice-versa. This paper reviews a funded project of investigating how technology enhanced learning and assessment experiences in an UK university and reflects on areas of underachievement.

1. Behind the Scene of the Pedagogical Ground – "Extension or Disruption"?

A few decades ago McLuhan [3] first claims that media is the "extension of man" and "the medium is the message" because "it is the medium that shapes and controls the scale and form of human association and action". It plays an influential role not by the content delivered but by its own characteristics. Postman [4] further explores McLuhan's notion that it is not the content of cultures that shapes ideologies, but the shape of the culture's media in relation to human communication and thought that produces the field and scope of ideologies [5]. Thus, we would argue that pedagogy should shape computers and its uses. To borrow McLuhan's terms, computer technology is then the "extension of academics" and along with technology, other educational factors, such as socio-cultural conditions, peer-support and an emphasis on the learner as an active learner are essential elements to improve the learners' ability to learn – technology enhanced learning experience.

Brabazon [6] states that "money is being thrown at **technology in education**, not education in technology." By this she means that in higher education, where technology and education meet in educational design, priority is give to technology. This is normally conceived as a transmission model, with the technology being used to "deliver" content. Brabazon draws a distinction between technology for education and for operational purposes. The selection of technology must be based on the consideration of the aims of the pedagogy, not of the limits of the technology. When the emphasis is placed on meeting the educational purposes the result is, Brabazon argues, "**education in technology**". On this ground, we would assert that that technology is not an extension for academics but of disruption if it is "technology in education", where as it is an extension when vice-versa. Therefore, an investigation of when technology becomes extension of academics or disruption for academics is necessary. The University of Glamorgan has adopted an innovative online assessment system, GradeMark by Turnitin since 2009. GradeMark (see Figure 1) is a computer-aided assessment and feedback tool which integrated with the University's Virtual Learning Environment (VLE), Blackboard. It allows academics to provide grades and feedbacks [7]. Clipboard (the "feedback bank"), QuickMark (the quick marking palette) and Rubric Scorecard (assessment criteria) are the main functions of GradeMark. There is no similar research or empirical studies since GradeMark is newly introduced to the UK universities. Hence, a pilot study of "Turn it in or Turn it off" was carried out in the University to investigate the experience for such tool pedagogically.

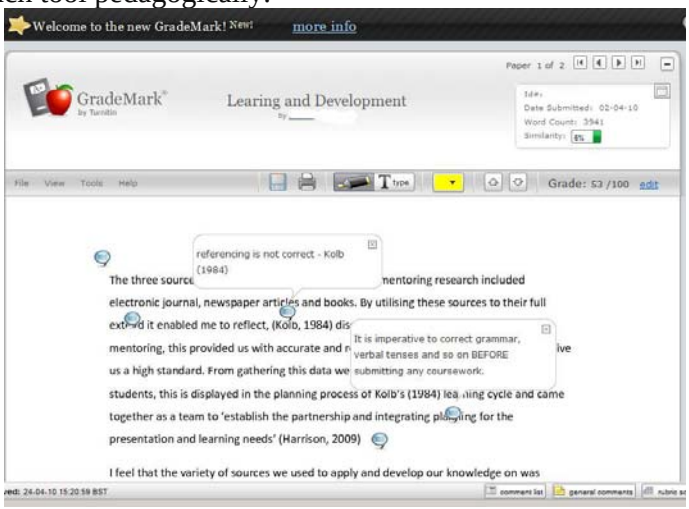

Figure 1. Sample of GradeMark

2. Research Design and Methodology

The aim of this project is to investigate the technology enhanced learning and assessment experiences at the University. This is a collaborative project of academics from 4 faculties, which provide experience sharing and critical analysis of the pedagogical and technological impact of GradeMark. The project responds to the needs of research agenda with the following objectives: (1) To support and develop academics to use GradeMark in online assessment and feedback; (2) To identify the academics' positive and negative experiences on GradeMark; and (3) To reflect on areas of achievement and underachievement in the pedagogical use of GradeMark. To maximise the experience findings, a range of formal and informal data collection instruments were used. These included video recorded interviews with six academics and site visits to individual office for support and observation. Questions were designed in a way to capture openly academics' positive and negative experiences. The data analysing phase commenced with direct interpretation from interview transcripts through open coding, to obtain the themes and category aggregation. Drawing heavily on

Ryan and Bernard [8], the project used a number of ways in which those coding could discover new themes, such as word repetitions, keywords in context, compare and contrast, metaphors and analogies used by interviewees. List of debates and discussion is suggested to academics for potential future enhancement and best practice for the use of the system.

3. Findings and Discussions: Analysis and Summary from the Interviews

3.1 The Extension - Positive Experiences

The findings of the project confirm that all academics gave very positive views towards GradeMark. Apart from the technical difficulties and learning curve, they acknowledged the benefits and enhancement brought to their students' learning experience especially in the aspects of **interesting, easy access and individualised assessment feedback**:

> "I find it quite easy to do. I think it's flexible and students enjoy it. The feedback I have got from students is that they are more than happy to use GradeMark…I think it is a positive tool!" ~Academic F

> "Students are really really happy and excited about GradeMark…week after week they are anxiously waiting for the apple to turn red so that they can know the mark and feedback!" ~Academic C

GradeMark provides useful tools such as the in-text clipboard and rubric scorecard to enhance the assessment experience, in terms of **prompt, more detailed, better quality and richer feedback compared with the traditional paper-based feedback**:

> "I use everything, from Clipboards to general comments and rubric scorecards, I use them all. All of them are useful! We have to give feedback almost line by line – from grammar to actual content, from the thought process to critical analysis… it is unbelievable, we really have done that and GradeMark does help!" ~Academic B

> "I have given more feedback than I probably would have done in a paper method with a pencil because the clipboard was there…and the comments were there...Before, I would probably just put a tick." ~Academic A

> "I quite like the facility where you could review the comments at the bottom and you can glance at the comment list. I think this is a really good tool…when you come to the final comment, it informs it...So I think students get quite good feedback from us." ~Academic D

GradeMark also speeds up the marking process and provide a flexible marking facility – academics could mark students' assignments from anywhere. The below outlines the academics' positive comments about how GradeMark **eliminates the trouble of carrying bulky hard copies and uncollected or unread assignment feedback**:

> "It speeds up my marking. I love the fact that I can mark online from anywhere as long as I have got Internet access, such as home, Cardiff Central Library and on the train - that's the main benefit for me. Marking online with the bank of feedback is also very helpful. In my group I have a hundred of students and I love the fact that I don't have to write the same whole thing 30 or 40 times so that customised feedback bank was really helpful. " ~ Academic E

> "It is positive because…I don't have to have them in the office and knowing that students are never going to collect them because most don't but in this way they do, they get the feedback as it is online, it is there!" ~Academic C

Crudely speaking, academic and research life can be isolated. Academic usually stay in individual rooms and busy themselves with class preparation, marking and research. Individuals may have very distinct views and practices about the same subject in the academic world. Pedagogically, **community of learning and practice are essential. Vygotsky's Zone of Proximal Development (ZPD)** indicates a simple but powerful educational principle - the quality of individuals' thinking and performance is much better if they were aided by more skilful and knowledgeable individuals rather than working independently [9]. Vygotsky recognises this kind of peer-assistance is needed to help individuals develop new or better skills within their ZPD. Interestingly, two experienced lectures from different faculties experienced this after using GradeMark:

> "Although the rubric didn't work out, we had a really good discussion and spent time on what we were looking for in it. So that was good for the students. When you have a team of people marking work, you all have a common agreement about what you are looking for. I think that's an advantage. " ~Academic D

"We also get the support from our office mates and our colleagues. I felt that everybody here is working towards implementing GradeMark…so that kind of peer support, discussion and debates are more since introducing GradeMark." ~Academic B

3.2 The Disruption - Negative Experiences and the Reflection on Areas of Achievement and Underachievement in the Pedagogical Use of GradeMark

There are top 3 negative experiences raised by academics: (1) Initial learning curve and confusion with the terminology on GradeMark; (2) stability of the network connection – caused the loss of comments or marked work and slowed down the marking process; (3) technological constraints such as GradeMark interface is too small and not resizable. Table 1 exhibits the comparative experiences of academics in using GradeMark, and the category of these experiences. This finding apparently affirms that, in overall, GradeMark enhanced the teaching and assessment experiences from a pedagogical-oriented aspect. In contrast, the main disruption came from technological aspects and issues.

Table 1. Comparative Positive and Negative Experiences with GradeMark

Positive	Negative
T&P: Convenient, flexible and fast coursework receiving and grading process - can be done at anytime and from anywhere and a speeding up of the assessment and marking process	**T&P:** Initial learning curve
P: The originality reports help in preventing plagiarism by providing formative feedback before the due date	**T:** System or network not available
P: Provide better, richer, helpful, and more detailed assessment feedback and eliminate the frustration of storing uncollected or unread assignment feedback	**T:** Technological constraints: interface too small and not resizable
P: Create the community of learning and practice (Vygotsky's ZPD)	**T:** Confusion with the terminology used on GradeMark
	P: Pedagogical practices: it is difficult to compare two student assignments side-by-side, the clipboard comment list is not in alphabetical order

Note: T&P: Both Technological and Pedagogical Aspects; T: Technological Aspects; P: Pedagogical Aspects

However, the academics across the faculties overcame these technological issues by seeing the student-driven benefits. Such commitment to enhance student learning and assessment experiences led to the individual's persistency and patience towards the technological constraint. These are described next:

"…students are more than happy to use GradeMark once they have got over the initial 'shock' of using technology to do this… I still want to use the system but just have to be patient." ~Academic F

"From what I have heard, students are really really happy. They feel that it is a much more individualised way of submitting their work to tutors as they have got wonderful support in terms of the comparative report where they may need to improve their work, and the feedback is instantaneous from the tutor; whereas in the past they took much longer to get their feedback - from that perspective, this system is very very good." ~Academic B

Besides, being tolerant of the new system and the technical limitations, and being flexible to try out or switch to different methods with the positive attitudes to confront the negative experiences:

"The one about the sorting feedback, I just browse through the list and it was annoying…I tried to use the QuickMark palette as much as possible…" ~Academic E

"We backed up all rubrics and comments in 'Microsoft Word'… and I obsessively hit the save button!" ~Academic D

Hence, all these commitment and flexibility clearly provide insights on how educational values and pedagogy shape the use of technology – from disruption to extension. On the other hand, the following is the top list of debates and discussion extracted from the

underachievement in the pedagogical use of GradeMark*:*

1. Consistency in use of GradeMark by academics – not all modules are available for GradeMark (some academics refuse to use the system) and this may cause confusion for students. Would it be appropriate for the University to make the use of GradeMark mandatory?
2. Double works for students - some academics require students to submit both online and printed copies. Would it be possible to enforce only one submission route?
3. "Mechanical" and less personal-touched feedback – the assessment feedback may be similar due to the use of the assessment feedback "bank". Would it have more pedagogical value to enrich the bank or provide more individualised feedback?
4. Formative assessment or summative assessment – some academics do not allow the student to view the originality report and some academics prefer the "first submission as final". Would it have more pedagogical value if all students could access the originality report before the due date?
5. The community of learning and practice brought by GradeMark – not all academics prefer such "community learning" due to the long tradition and culture. Would it be possible to develop the Vygotsky's ZPD with intended benefits?

4. Conclusions

With the experience sharing of academics across 4 faculties in the University of Glamorgan, the project successfully identified, both technologically and pedagogically, positive and negative experiences for embedding GradeMark in the 2009/10 academic year. Such an innovative assessment and feedback tool is an extension of academics, which benefits both academics and students pedagogically. Taylor [2] asserted that educational values should be driving technology development, not the other way round. Findings of this research indicate that pedagogy should shape the use of technology and it would become the "extension" of academics. Hence, we would assert that the commitment of academics to enhance student learning and assessment experiences led to the individual's positive attitudes such as persistency, patience and flexibility towards the technological constraint and issues. In summary, it is all about "education in technology", not "technology in education". The computer technology as an extension of academics only realise when priority is given to the pedagogy over technology; whereas computer technology is a disruption for academics when sole focus is given to the technology. In closing, an interesting quote affirms the analogy of the research:

> "At the beginning students were fearful when GradeMark came across in class, both consciously and unconsciously, they thought that this thing is going to 'catch' them! But slowly through a lot of us explaining this tool is not to 'catch' them at all but a tool to actually support them in their learning experience of how they referenced and how they actually use materials and information in writing their assignments…and since then they were much more positive and they like it!" ~Academic C

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