Classroom equivalency hours in e-Learning Programs

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The face of education continues to evolve with the rapid development of technology based educational models that are not only more easily accessible and more cost effective, but are actually outstripping performance levels of traditionally educated students (U.S. Department of Education, 2010).

However, as with all new concepts, particularly such a rapidly developing one, a required shift of mind set and understanding is needed by those of us who are have spent the majority of our own educational experiences in the more traditional classroom setting.

Particularly for tertiary education, the flexibility of technology based learning paradigms are well suited to those already in the workforce. With students able to access coursework from just about anywhere and on a multitude of devices, quality education has never been so accessible. Coupled with educational outcomes that are more evidence based and now able to be supported as more effective than traditional approaches for a range of topics and audiences, the professional and non-professional alike are better afforded options to add to and maintain credentials and remain current with their knowledge.

One benefit, oft not realized, is the more efficient nature of the time spent on coursework. In short, well designed e-learning programs can be, on average, three times as effective and with improved outcomes when it comes to the amount of time it takes to work through coursework. That is to say, superior outcomes are demonstrated in an average of a third of the time.

However, this isn't as amazing as it may first seem. When we factor in existing knowledge, focused attention and removing the "human" element of the classroom, the time savings can be easily understood. For example, if a traditionally presented course is designed to be a, say, 30 hour program, a person enrolled in this will have to take 30 hours to complete it. Their time is governed by the constraints of the classroom schedule and the presentation of the material by the teacher or lecturer. Whether or not a particular student has existing knowledge and experience, there is no way for them to shorten the amount of time the program can be completed in.

In contrast, a student who may have prior experience and knowledge in a topic, and who is working through the same program presented using a technology based approach, may complete the same material in significantly less time given the lack of constraint regarding such things as classroom schedule. Simply, the material that can be worked through in a set number of classroom hours can potentially be completed, with superior outcomes, far fewer.

This has left the e-learning industry having to gather copious quantities of data and formulate "equivalency" protocols when developing programs. What is the "time" value of a given slide? What is the total number of hours a program will take? Of course, the answers to these questions are entirely

variable. For example, if a person who has had very limited knowledge and experience in a particular field, then a course that may take an experienced person 10 hours, may take the inexperienced person double this, or more. In the classroom, it will have required the same time commitment for both. In this example, the classroom time may have been too much for one and not enough for another.

Understanding these variables, and eliminating the many confounds of traditional education models, will be critical for those who are leading the future of education.

A strength of technology based approaches, is the repeatability and measurability of the data which allows for continuous refinement of the formulas that bolster the confidence of program developers.

Consider the following formula which can be applied to assigning “classroom hours” equivalency to e-learning programs (College of Applied Human Services, 2011).

$$\frac{((x1.5)+(a+b))2.7}{60}$$

Where: x=total number of slides
a=total minutes of video
b=total number of test questions

So, to apply the formula to an e-learning program that has 20 slides, 6 minutes of video and 12 quiz questions, would equate thus:

$$\frac{(30)+(6+12)2.7}{60}$$

$$\frac{129.6}{60}$$

=2.16 classroom equivalent hours

In this example, the result is 2.16 classroom equivalent hours. However, in reality, a learner could work through the material and pass all assessment in an average of 48 minutes. The values in this particular formula have been calculated by averaging time data from over 11,000 participants completing a range of courses and topics within the human services sector.

Of course, these figures may vary by industry and topic. Nevertheless, the basic concept should remain valid. In this particular example, the ***1.5*** represents the mean amount of time spent viewing a given "slide" and the ***2.7*** value corresponds to the multiplier (in hours) that represents the mean difference between those completing the same materials in a classroom environment as compared to those completing the online version. Note that because these times have been averaged, this should largely account for differences in a participants' prior knowledge and experience, or lack thereof.

The challenge for the e-learning industry, as it continues to be bolstered by good scientific evaluation and increasingly robust peer review, is to assist those more traditionally focused educators to understand that more is not always better. In fact, it is academic outcome that is most important however much time someone has spent in study. We need to understand that if we measure educational outcomes on an “apple for apple” basis, then the number of hours spent in study is immaterial. Rather, it could be argued, it is the conceptual understanding; ability to critically analyze and

the capacity to apply retained knowledge to real life practice that determines the quality of any educational process.

As we look to the future of education at all levels and for all people, we must continue to research and evolve educational models to keep pace and make best use of technology. Our options, as learners, have never been so plentiful. Of course, technology based education is not a solution for all situations, topics and learners. Nor though, is any technique including the traditional method. The important thing is to continue the research and make decisions based on evidence rather than a subjective view.

References

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