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KNOWLEDGE ELEMENTS®

Delivery of the Standard Semester Hour Unit

Several members of the Knowledge Elements Education Network (KEEN) have expressed concern regarding recent federal regulations that define a credit hour in terms of the Carnegie unit. In order to address this concern, members of the KEEN administrative team attended the CHEA 2011 Annual Conference on "The Evolving Role and Responsibilities of Accreditation."

Based upon the information gathered at the CHEA conference, no structural changes are necessary by an institution that has implemented nontraditional alternative educational delivery methods (including adult degree program and online) in consultation with Knowledge Elements—so long as the institution has maintained a strict adherence to the program's initial implementation guidelines and has kept the program current. This is necessary because these delivery methods require the student to do an amount of work represented by clearly identified learning outcomes and verifiable student achievement of these outcomes. Our organization has utilized this model of consultative curriculum planning and assessment since 1987.

The main session, which covered the topic of defining a credit hour, was entitled *Higher Education and Accreditation: The View from the Obama Administration* presented by Dr. Eduardo Ochoa, Assistant Secretary for Postsecondary Education, U.S. Department of Education.

During this presentation Dr. Ochoa displayed the verbiage from the actual regulations and proceeded to explain what the goal of the USDE was regarding the definition of a credit hour. Those goals included increasing the overall percentage of adults with certificates or degrees from 40 to 60% in this decade. "Higher Education has become a huge competitive component for the future of our country," said Dr. Ochoa.

In Dr. Ochoa's presentation (CHEA, 2011) he highlighted key words within the regulation as shown here from the Federal Register/Vol. 75, No. 209/Friday, October 29, 2010.

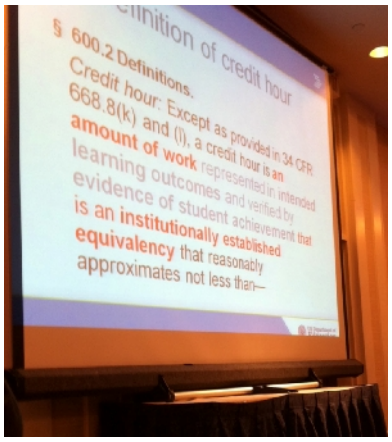

Figure 1: Picture of Slide During Dr. Ochoa's Presentation

Definition of a credit hour:
§600.2 Definitions. "…a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than–…"

Dr. Ochoa made several specific comments during his presentation that "amount in this regulation is not meant to be a quantifiable number."

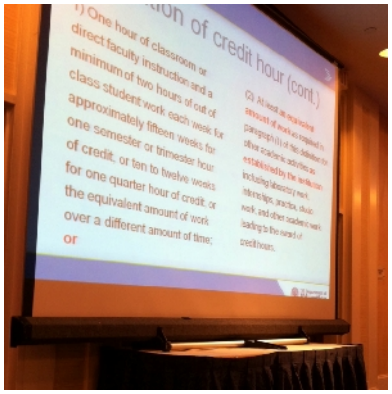

Figure 2: Picture of Slide During Dr. Ochoa's Presentation

"The fundamental thing we [USDE] are trying to get at is not contact hours or class work. We

are moving away from credit hours being measured by student class time." Amount of work is defined within the regulation as being "represented in intended learning outcomes and verified by evidence of student achievement."

Definition of a credit hour (cont.):
1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time;

or 2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Dr. Ochoa said "the examples listed here are not an exhaustive list."

Based upon this information, credit may be awarded for an amount of work that is measured by the successful achievement of learning outcomes done over a period of time different than the traditional semester.

Equivalency originates from late Latin *aequivalent- 'being of equal worth.'* Equivalency of work is defined by an institution as the amount of work it takes each individual student to successfully complete the learning outcomes defined in their course.

Individual students work at their own paces for reading speed, word processing skills for homework, experiential knowledge base of material, various learning disabilities, different I.Q.'s, etc.

Dr. Andrew Hacker supported this concept of the amount of work required to successfully achieve an outcome during his presentation at CHEA 2011.

"Good teaching doesn't require—indeed, doesn't tolerate—spoon-feeding or dumbing down. On the contrary, good teaching sets high expectations and warns that serious learning will be difficult. Indeed, it places students at center stage; they are the ones to be persuaded to use their minds. And in this pursuit, less is often more. It is common to hear professors boasting of assigning several hundred pages of reading a week. There's no way that much material can be absorbed in seven days. More will be retained from two carefully chosen articles." ~Andrew Hacker, Professor Emeritus, Department of Political Science, Queens College and author, Higher Education?

While quarter hours and other measurements have been employed in recent times to measure the extent of a collegiate learning experience, the semester hour has prevailed as the predominant unit of measurement. Most undergraduate college/university courses in the United States are three semester hours.

There are two means by which student and institutional performance for the three semester hours can be measured. One is by time allocated for the learning experiences and the other is by accomplished learning outcomes.

Time Allocation

In the decades prior to 1980 most of collegiate education was measured by time spent in the learning experiences. A three-semester hour course typically met for fifty minutes three times a week (e.g., MWF) or twice a week for a similar amount of minutes (e.g., TTh classes).

The length of the semester has generally declined over the last half of the 20th century from about 18 weeks (plus or minus an exam week) down to 15 weeks. Whereas the fall semester used to start in September and end in January, the fall semester now typically starts at the end of August and ends well before Christmas. The spring semester used to start at the end of January and run well into June but now it starts in the first half of January and ends by the first or second week of May. The point here is that the length of a semester might now be defined as fifteen weeks but there is no historical precedent to support that it should be fifteen weeks (or 15 weeks times three times a week times 50 minutes for a total of 2,250 minutes).

In time allocation within a semester there were notable exceptions to this norm. Laboratory

classes have typically earned more semester hours of credit but with a disproportionate number of hours because lab time was not thought to be equal to lecture or classroom time. Field experiences such as a semester abroad would provide much less structured time but a greater amount of total exposure to the learning experiences. Student-teaching courses have typically required a full day in an elementary or high school classroom for an extended period of time to earn the semester hours of credit required for teacher certification. There are a number of other examples in which the amount of structured time was expanded to fit the type of learning experience but still with a tie to a set number of semester hours required for certification or a degree.

Students learn best by getting into new cultures —when they are asked what's the most powerful learning experience on campus they almost always list an experience outside the classroom, was said by Dr. Richard Hersh, Senior Consultant, Keeling and Associates, LLC and Former President of Trinity College and Hobart & William Smith Colleges at CHEA, 2011.

In some field experiences the amount of structured time can be much less than if the course were done in a classroom. The semester abroad experience, cited above, might have only a limited amount of structured time in a classroom and then turning the student loose in a new culture to learn in a variety of ways as they encounter the language, the customs and traditions of the location. Even on college and university campuses, students often learned through independent study. There were a number of reasons for this: 1) only one or two students needed or wanted that course that semester so a professor could be assigned to work with the student(s) on an independent study basis, 2) advanced work in a discipline might require library or laboratory work by the student to pursue individual or special interests, and/or 3) the preferred learning style of the institution could be one in which independent study was considered to be more likely to lead to significant learning than the lecture/recitation style of classroom. In independent study the student would still be awarded semester hours of credit but the number of credits would be assigned by the professor in keeping with the amount of work assigned. In some disciplines these might be labeled readings courses in which the student was assigned a number of books with periodic meetings with the professor. In other instances it might be connected to a seminar or honors seminar in which a small group would meet periodically to discuss the independent study work of each student. Various forms of independent study (sometimes called tutorials) have been part of the United States higher education scene for most if not all of its history. The point of this is that while most independent study has been translated into semester hours, it has not been measured in time. Thus, not all United States higher education in the past has been measured primarily by time.

The Transition

During the last quarter of the 20th century the movement toward learning outcomes began to pervade the accreditation associations in the United States. Increasingly, accreditation standards moved away from quality as measured by time toward measuring quality on the basis of learning results with the students. This became the major transition in higher education in the last fifty years. Professors and others protested that not all learning could be measured at the time of learning. And some learning, as was argued, could never be measured (appreciation of the arts, for example). Nevertheless, the movement progressed steadily with increasing standards placed on institutions to document that student learning was taking place and that it was the learning that the institution intended. Possibly the major impact of this change was the movement away from the assumption that learning was the responsibility of the student to the assumption that learning was the responsibility primarily of the institution.

Learning Outcomes

The development of learning outcomes by institutions has caused higher education to look at measurement in many different ways from the historical model. First, institutions have had to accept the concept that whether the student learns is an institutional responsibility (even to the point of being held legally responsible for a positive result). Second, institutions have had to

consider how "institutional effectiveness" will impact all of what the institution does, including administration. Third, this has impacted the relationship with professors who previously felt and acted as if they were in charge of the learning process. Now there are institutional learning outcomes that professors must assume responsibility for meeting. Thus, the educational process has become more of a relationship between the institution and the student with the professor as the delivery agent instead of between the professor and the student with the institution as the host and provider.

Learning outcomes for a course or a program are a statement by the institution of anticipated learning by each student enrolled in that course or program. A learning outcome must be stated in measurable terms as much as possible. Once a learning outcome is stated, the accrediting bodies expect that the institution will structure, fund and staff itself in whatever way is needed to accomplish these learning outcomes. A grade at the end of a course or a certificate or degree granted is an indication that the student has accomplished these learning outcomes. It is the responsibility of the institution to assure that most or all students achieve these learning outcomes. It is no longer the primary responsibility of the student to achieve. While our focus here is on higher education, it should be noted that this movement toward responsibility for institutional learning outcomes has permeated the K-12 education scene with pressure from the U. S. Government ("No Child Left Behind" for example) as well as the accrediting bodies.

The relationship of institutional mission to learning outcomes is that this broad mission statement is the overall blanket under which everything the institution does must fit. From this program (or major) learning outcomes are expected. Course learning outcomes must fit within those written for the major of which they are a part. Learning outcomes for general education are also expected to be in place.

Today's Higher Education Model

Historically, as universities were created in Europe seven and eight hundred years ago, they were more of a federation of teachers who gathered students around them to learn from them. Greater numbers of students brought more organization and more services by the universities. The power of the universities grew correspondingly.

At the beginning of the 21st century members of the faculty retain powerful roles within colleges and universities but the institution has clearly become the predominant force. The factors regarding standardized measurement of outcomes mentioned earlier accelerate this process of giving authority and responsibility to the institution. Comparable learning outcomes are not easily done by each professor thus lending to the concept of outcomes being done by the institution.

The higher education model of today has the feature of offering courses in traditional, blended, and online modalities. Due to the structure and technology involved, this enhances the role of the institution.

Standardized education also adds to the need for uniformity in the structure and content of courses and decreasing the latitude of the professor in both what will be taught and how it will be taught.

Learning outcomes may blend well with a standardized approach to teaching/learning. In this approach, all features of the course including learning outcomes can easily flow from the course title and course description and can be standard regardless of who teaches the course. In fact, the course was probably written by a course writer rather than the professor teaching the course, which introduces other standardization features.

The broad adoption of textbooks and related materials from publishers is also enhanced by standardized courses. One of the implications for all of this standardization is further definition and standardization of what three-semester hours means in terms of what students and faculty will be required to do in order to complete a course. For example: a textbook publisher hires a team of credentialed authors to create the content, learning outcomes, and assessments for a book. The instructor adopts this book and the auxiliary resources of presentations and teaching materials. The instructor may download and use the publisher's assessments to test the student's learning. This process makes it difficult for the

instructor to add additional experiential value to the content being presented to the student. In this model the publisher is the entity that provided the outcomes, content, learning experience, and assessments.

As mentioned above, semester hours were formerly measured primarily by time. Online education has had a considerable impact on this notion because no one knows (even the student) exactly how much time was spent at the computer or in any other interaction with the professor or other students (chat rooms). Thus, in online education the amount of time spent to earn three semester hours is something that is not measured. If time is not measured, there must be another way of measuring whether the planned learning experience (course) is comparable to other courses in which the same amount of semester hours has been awarded.

Online education measures student completion of all of the work assigned in the course. In an interactive learning design model (as pioneered by Knowledge Elements) all of the work assigned stems from the learning outcomes for the course rather than a series of tasks designed by a course writer. Thus, "seat time" is not a relevant issue in online higher education. Yet, online courses are expected to be comparable to traditional classroom based courses. The only possible comparison between the two methods available to us today is learning outcomes. The learning outcomes should be the same in the online course as the course by the same title and number in the classroom. Accrediting bodies ask for institutions to be able to document this consistency.

Nontraditional education that takes place primarily in the classroom, such as adult degree programs, is neither traditional classroom courses nor online courses. How are they to be compared to either of these other methods? The obvious answer is by learning outcomes. Nontraditional courses of all types (independent study, study abroad, field work, adult degree programs, internships, student teaching) must be measured by what they purport to do, their learning outcomes. Do the students completing these courses complete the learning outcomes with a sufficient degree of quality? This means that the learning outcomes in nontraditional courses must be comparable to traditional classroom courses and online courses. As a result, nontraditional courses cannot be measured by seat time (some nontraditional courses such as field education might have no seat time). The only option for measuring the learning effectiveness of nontraditional courses, including adult degree programs, is to determine 1) are the learning outcomes comparable to traditional and online courses?, and 2) did the students in these courses complete the learning outcomes with a sufficient degree of quality?

The Future with Semester Hours

The future of semester hours as the measurement of how much higher education has been completed is a secure one. There is no widespread acceptance of any other kind of measurement device. However, the form and style of the education that led to the completion of a course and its semester hours has only begun to diversify. The course of the future will vary considerably in seat time with the seat time not in proportion to the number of semester hours but in relation to the type of learning and the extent to which that particular learning is best accomplished with seat time as opposed to other alternatives. Higher education of the future will be a blend of many forms of education including traditional classrooms (modified with many forms of electronic media), online with the professor, online chat rooms, on campus discussion groups, access to materials on the Internet and in libraries, interactive learning activities in which the student and computer interact on a series of planned learning activities, testing, submitted papers, submitted technical exercises, oral performance, written and oral examinations. The role of libraries has already extensively changed away from the repository of materials and a place to study in order to facilitate these changes that have begun and will continue to bring many new features to higher education. The traditional classroom will survive but it will take on a very different appearance and function.

We have known for many years that time exposure does not ensure learning. To determine whether a person has been educated, the thinking, skills, knowledge and application need to be measured and not the amount of time spent in a traditional classroom. In a way, this returns us to the model of early medieval universities in which a student might study with a professor until

he felt he had accomplished what he could with that professor and then moved on–his learning outcomes had been met.

Classroom time does not exactly equate to effective teaching either. Fifteen weeks of students and professor together with every student earning an A for the course might only mean a lot of time wasted with no indication from those grades that student learning actually took place. It is this observation that has propelled the movement within higher education and the general public toward learning outcomes.

Learning outcomes forces the institution to decide what it wants the students to learn in thinking, skills, knowledge and application. Once it decides this, it must determine how it will accomplish the learning outcomes with the greatest number of students at the highest quality level enrolled at the institution. The greater the number of students who accomplish the learning outcomes, the greater the success of the institution, providing of course, that the learning outcomes set forth by the institution were meaningful to the students and to the mission of the institution.