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Routine Transparent Coordination: A Field Study of Higher Education Professionals

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Abstract

This study focuses on work practices of the higher education professionals who develop and maintain “articulation agreements”. The aim of this study is to discover the necessary design parameters for systems that would support curricular articulation in the virtual university context.

Keywords: Socio-Technical Systems, IS Design Issues, Ethnography, Field Study, Problem Solving, Boundary Spanning

Introduction

Within five years, the demand for post-secondary education will exceed the current carrying capacity of many educational institutions in the United States. For example, by 2005, California anticipates an additional 500,000 students seeking baccalaureate degrees. These grandchildren of the “Baby Boomer” generation will account for a projected 25 percent increase from 1996. The total enrollment is projected to be 2.39 million students. . (Little Hoover Commission, 2000)

It is no longer feasible to construct enough new physical plant necessary to accommodate this influx. For example, one four-year school system in California estimates it would cost close to \$550 million to increase capacity by 29,000 full-time equivalent (FTE) students. (Little Hoover Commission, 2000) Not surprisingly, several states are turning to the notion of “virtual university” to increase carrying capacity.

“Virtual university” is a concept recently embodied in a number of major initiatives such as the Western Governors University (WGU) and the California Virtual University (CVU). All of these efforts require the coordination of curricular requirements, and those curricular requirements depend on the development of “articulation agreements” between the various institutions involved in the virtual university program.

“Articulation agreements” are the purview of a specialized group of higher education professionals. These professionals are of special interest because their work routinely spans intra- and inter- organizational boundaries, requires the application of specialized knowledge, occurs in an environment fraught with change, and requires coordination with others who are separated geographically.

Articulation “refers specifically to course articulation...the process of developing a formal, written agreement that identifies courses ... on a ‘sending’ campus that are comparable to or acceptable in lieu of, specific course requirements of a ‘receiving’ campus.” [CPICU 1995]

The underlying rationale for “articulation agreements” is creating a seamless transition for the transfer student who will have had sufficient preparation at the SI to continue to next phase of courses at the RI. The ultimate rationale is to achieve efficiency and effectiveness in the use of education assets.

Each year, thousands of students transfer from community colleges(sending institutions, SI) to universities (receiving institutions, RI) to earn their baccalaureate degrees. Coordinating curricular requirements is part of the process of transition between two-year and four-year. California views this coordination as so important that it enacted SB121 in 1992 which mandated articulation agreements.

The Study

California is home to the highest number of post-secondary institutions in the US and as such provides an interesting arena to study the process of articulation agreements. In 1998, there were over 41,000 transfer students in California. (Little Hoover Commission, 2000).

There is also a statewide mandate, the State Master Plan for Higher Education which set up transfer from two-year to four-year campuses. This was augmented by State Senate Bill 121 which mandated transfer agreements amongst the segments.

Data is being collected at a set of Carnegie Classification 2000 Research Universities I & II, (the University of California, UC) and Associates of Arts Colleges (California Community Colleges, CCC). The UCs are considered the ‘receiving institutions’ (RI) and the CCCs are considered the ‘sending institutions’ (SI).

This study focuses on the process by which articulation agreements are created and maintained between RIs and SIs. (Because RIs handle inter-institutional transfer on a case-by-case basis, this interaction was not studied.) Special attention is given to the interaction/role of boundary objects [Bowker & Star 1999, pp. 16 & 297, Star 1989] in the articulation process.

Until recently, the pairings of RI and SI were determined by two factors: geographic proximity and the number of transfer students from a particular SI. However, as a result of a recent statewide mandate, a given RI must now set up and maintain an articulation agreement with each of the SI within the state without regard to location or number of transfer students. (This is a similar requirement of the virtual university notion.) There is a differential of power implicit in this pairing; the SI is subordinate to the RI.

Articulation agreements determine whether a course taken at a particular SI is accepted 'in lieu' of another course offered by the RI. It is imperative that there be coordination and agreement about what a prospective transfer student completes at SI before applying to RI. These agreements constitute a contract between the RI and SI but more importantly, a contract between the student and these institutions.

Articulation professionals are charged with coordinating a process over which they have little direct control. Incessant demands for modification of timelines associated with the creation and maintenance of articulation agreements are the norm. These delays are caused by events that range from SI general catalogs delayed at the printers to curriculum evaluation requests buried on the desk of a busy evaluator (who often works in another intra-organizational unit).

There is a marked difference between the actual and elapsed time required to complete the evaluation of an articulation agreement request. The actual evaluation time (per academic major per SI), with experience, is around an hour per agreement. The elapsed time varies from 2 weeks to 8 weeks. The number of majors evaluated can range from a few to almost one hundred.

The articulation professionals often describe themselves as a 'liaison' between the RI and SI faculty. Although the faculty are the final arbiters in the decisions regarding curricular requirements, the articulation professionals are sometimes given 'signature authority' and make the decisions as faculty-proxy.

Components of the articulation process: include artifacts (e.g., general catalogs, course outlines, syllabi), tacit knowledge of 'what academic units expect', extensive knowledge of curricular requirements, tacit knowledge about what has been rejected/accepted in the past to determine transfer credit for courses taken at SI, and a heterogeneous set of localized work practices.

The work required to create and maintain articulation agreements is highly detailed. Possible sources of error include interchange of digits can be crucial, e.g. Math 2A is not the same as Math 3A, Philosophy 1B is not the same as Philosophy 1A. Articulation professionals work

in a world where a single digit or letter can make a difference.

Just when the articulation professionals think an agreement is 'completed', a community college may decide to 'renumber' their courses. This invalidates the previous articulation agreements which were based on a different set of course numbers. Or the community college may decide to drop a course from or add a course to their curriculum..

Re-evaluation of articulation agreement triggered by any one or combination of the following...and the articulation officers cannot plan for most of these events and must interleave these additional requests with ongoing 'line' of articulation agreements. Articulation professionals repeatedly stated, setting up the agreement is the easy part; maintaining the agreement takes much more time and effort.

Articulation agreement is a type of quality control for RIs. It serves to maintain the quality of students at RI as well as provide an explicit contract among transfer student, SI and RI. If this agreement is botched or misunderstood by any party, then the transfer student is the ultimate loser. He may be required to take additional coursework, repeat coursework, or be denied entry into a preferred major.

Research Questions

The research questions are:

- What features of the political and social processes of creating articulation must be reflected in the information system design that supports the articulation process upon implementation?
- What kind of flexibility do you have to design into the information infrastructure to support the kinds of outcomes that this political and social process is going to yield?

These questions will lead to a greater understanding of the process by which articulation agreements are produced and more importantly, maintained. Boundary objects will be used to focus the investigation and to locate information processing requirements. The primary boundary objects are the articulation agreement itself, the articulation professionals, the general catalog.

Methodology

The frame of analysis is composed of a grounded theory approach to data collection and evaluation (Strauss and Corbin 1980), actor-network theory (Callon and Latour, 1992), and incorporates the fundamental theoretical construct of boundary objects. (Star 1989, Bowker & Star 1999, Mabrey and Robinson 1997)

This research is an ethnographic field study of the higher education professionals who are coordinate the creation and maintenance of “articulation agreements”. Data on work activities are being collected through a variety of techniques including interviews and observation of articulation professionals.

By focusing on a group of boundary objects including the articulation agreement, general catalogs, transfer students, and articulation professionals, underlying information requirements and interactions may be discerned.

Communities which intersect at boundary object called articulation agreement include but are not limited to: RI and SI articulation coordinators, RI and SI faculty, SI transfer coordinators, potential SI transfer students, RI students taking courses at their local SI over the summer break, admissions evaluators.

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