A Perspective on Institutional Data/Information Needs and Usage

Before a productive discussion surrounding questions on "What data do we need?", "What do we collect?", and "How do we use it?" can occur, a critical distinction must be made between data and information. These distinctions are based on the intended use and the end user/audience of the data. Data usually refers to "the direct results of observation or measurement"[1]. In other words, data are the raw facts. Information, on the other hand is "data that has been selected, combined, and put into a form that conveys to a given recipient some useful knowledge upon which to base action."[2] Let's consider, as an example, class lists, master schedules, grade distribution reports, and building and room utilization reports. These reports are generated on a regular basis and widely distributed. Are they data or information? For the faculty person teaching the class, a class list is information. For the registrar, however, trying to get a count of how many students are in a particular type of class, they are data until the number of students is tallied. The same holds true for each of these reports. Knowing the intended use of the report determines for whom it is data and for whom it is information.

> **In general, institutions collect more information than they need for certain types of functions or audiences; but, more often than not, not enough of what is important to other types of functions such as executive decision making**.

In the following pages we will review what is and is not collected and what uses are addressed and which are not here at STCC.

First, data/information serves a variety of functions. We will summarize them as follows:

❖ **The first and lowest level of data use is informational profile data**. The regularly generated reports such as those discussed above are information profile data. For an end user who is in a front line function each of these reports is likely to be information for much of what they do to interact with and provide direct services to students. However, these same reports may be only data for those same users when they need to share information with other internal constituents.

❖ **The second level of data use is summary data**. In this type of data, the details are removed so that the end user sees only the totals. This is the most frequently published data to share information with the general public and institutional constituents about where we are now. Student headcount and FTE reports, enrollment by program, total graduates, and external surveys such as the IPEDS and Perkins are examples of summary data. Summary data provides a simple snap shot of the institution at a point in time or for a given event.

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[1] Ewell, Peter, Information on Student Outcomes: How to Get It and How to Use it, National Center for Higher Education Management Systems, Boulder, 1893, p. 27.
[2] Ewell, p. 27

- ❖ **<u>The third level is trend data which looks at summary data longitudinally</u>**. Trend (longitudinal) data provides a profile of the changes within the institution over time and is a critical planning tool.
- ❖ **<u>The fourth level of data is analyzed data</u>**. The longitudinal data have been subjected to analysis that examines patterns, similarities and significant indicators. Retention studies and graduation rates are examples of this type of data, as are percentage of change studies.
- ❖ **<u>The fifth level is strategic/executive data</u>**. Executive data examines the relevant elements of the patterns and indicators found in the analyzed data that is used to inform strategic decision making, monitor/assess institutional effectiveness and progress to goal against pre-set targets, plan projections and what if analysis. It is what Dr. Black referred to as actionable intelligence. Program reviews, segmentation analyses, benchmarking, peer analysis, performance measure analysis, environmental scans, and the results of student outcomes assessment or student follow-up/opinion surveys are all examples of strategic/executive information.

Clearly, the higher up the information ladders the decision-making process function is the differences between data and information become significant. Transforming data into information becomes critical if the upper functions are to be supported. However, doing so requires clear direction of intended use and the question(s) under examination. In other words, at the lowest function, the user can be less clear about their intent and still derive useful information from data. The registrar that needed summary data about course enrollment but only has class lists can manually total the sheets to transform the data into information for one year. However, it would be a much greater challenge to transform class lists into trend data about class enrollment and an impossible task to derive retention data from those lists.

That said, the answer to the question of what is collected is very straight forward assuming the intent of the question is aligned with the anticipated level of information use. Also, as different institutions will have different questions as you step up the information use ladder based on the strategies they are seeking to inform/assess, answering the question will assume the question is driven by the common goal of reporting comparable data to the HEIRS and IPEDS systems. The following response therefore will look at the data elements most commonly request or required by such sources but not address institutional practice differences.

- ➢ **As stated above, in general, institutions collect more information than they need for certain types of functions or audiences; but, more often than not, not enough of what is important to other types of functions such as executive decision making**.
- ➢ **This information is often used at the lowest level of data to manage/inform logistical or process-based functions as well as some external reporting mandates/requests and many internal ad hoc inquiries.**
  - o This information includes the standard admissions data on a student's background or personal profile such as student placement, high school attended, other colleges attended, sex, race, or date of birth and is

collected routinely during the initial application process. Because this data is the foundation for both federal and state mandated reporting it is usually reasonably clean and complete, based on the data integrity standards established by the BHE. Other admissions data such as external transcript, standardized test scores, high school class rank and GPA as well as certain behavior and family related data is spottily collected and rarely used. One source of this additional information is the background questions on the placement test. This data is rarely used because, as self reported data, it is incomplete and often unreliable.

- o Additional level one data generated based on the students interactions with the college include student program, credit load, developmental work taken, registration level, enrolled and end of term status based on institutional withdrawal policies, grades, total attempted and accumulated credits, anticipated graduation data and graduation data. Comparability of many of these data elements, while definition-driven, is often compromised by internal interpretation of the data elements as established by institutional processes that affect the data entry of the data into institutional systems.
- o Data collected on the students after they leave the institution include transfer information

The following data will begin to capture, level and end user, the data collected and its use.

Data Level	Data Elements Collected	Source	Internal Use	External Use
Level One	Person-level admissions data	Application		HEIRS Files
	Person-level developmental level data	Placement tests	Advising and course placement	
	Person-level enrollment data	Registration	Class lists	
	Person-level graduation data	Graduation Processing	Graduation Booklet	
	Faculty-level profile and teaching load	Course Assignment	Master Schedule,	HEIRS Files, MCCC
	Courses Offered/taken	Registration	Faculty Workload Analysis	HEIRS Files

As the HEIRS files are very specific as to the individual elements in these unit record report items, the HEIRS data dictionary is the best source for that information. The summary pages for each area are attached for your convenience.

Data Level	Data Elements Collected	Source	Internal Use	External Use
Level Two	Applied, Accepted, Enrolled Totals	Application	Admissions Report	EER2, External Publications
	Developmental Enrollment	Course Taken	Ad Hoc Inquiries	IPEDS
	Enrollment Summaries 　　　Total HDCT, FTE 　　　By Sex and/or Race 　　　By Program 　　　By Student Load 　　　By Special Populations: Handicapped, Economically Disadvantaged Limited English Proficient, Tech Prep, Single Parent, Displaced Homemaker 　　　By Registration Level	Registration	Management Reports, Internally Published Profile Data	Perkins Occ Ed IPEDS, EER2, External Publications, Performance Measures
	Financial Aid Summaries 　　　By Award Type 　　　By Program 　　　By Cohort	Financial Aid		Perkins, IPEDS, HEIRS File
	Graduation Summaries 　　　Total HDCT, FTE 　　　By Sex and/or Race 　　　By Program 　　　By Special Populations: Handicapped, Economically Disadvantaged Limited English Proficient, Tech Prep, Single Parent, Displaced Homemaker 　　　By Award Level 　　　By Cohort	Graduation Processing	Management Reports, Internally Published Profile Data	Perkins Occ Ed, IPEDS, EER2, External Publications
	Post Graduation Activity	Alumni Survey	Transfer Report	Perkins Occ Ed
	Faculty and Staff Profiles	Human Resources		CUPA, AAUP, IPEDS, MCCC,
	Program Offerings	Registration		External Publications

Data Level	Data Elements Collected	Source	Internal Use	External Use
Level Three	New Student Application and Enrollment Trends	Application	Management Report	NEASC
	Development Enrollment Trends	Course Taken	Ad Hoc Management Inquiries	

	Enrollment Trend Analysis
	  Total HDCT, FTE
	  By Sex and/or Race
	  By Program
	  By Student Load
	  By Registration Level
		Registration	Ad Hoc Management Inquiries, Institutional Factbook	EER2, NEASC

	Graduation Trend Analysis
	  Total HDCT, FTE
	  By Sex and/or Race
	  By Program
	  By Award Level
	  By Cohort
		Graduation Processing	Ad Hoc Management Inquiries, Institutional Factbook	NEASC

	Faculty and Staff Profiles	Human Resources		NEASC

Data Level	Data Elements Collected	Source	Internal Use	External Use
Level Four	Percent Increase/Decrease of Applications and New Students	Admissions	Ad Hoc Management Inquiries,	EER2, External Publication, NEASC
	Percent Enrollment Increases/Decreases	Registration	Ad Hoc Management Inquiries, t	EER2, NEASC, Performance Measures

	Retention Patterns (Including demographic profiles)
	  Course Completion
	  Fall to Fall
	  Persistence
	  Semesters to complete
	  Transfer Before
	Graduating
		Registration NSLC	Ad Hoc Management Inquiries,	CSRDE HEIRS Performance Measures NEASC

	Graduation Rate (Including demographic profiles)	Graduation Processing	Ad Hoc Management Inquiries,	IPEDS, BHE, NEASC, CSRDE, SRTK

Data Level	Data Elements Collected	Source	Internal Use	External Use
Level Five	Diverse Outcome Data	Office Data	Faculty Projects	

In summary, this report attempts to capture those data elements that are institutionally collected through or result from the admissions process, placement testing, registration and grading process or graduation process. It is important to note that many offices also collect user-specific data and maintain internal databases. This data is rarely shared with other offices and how or whether it is ever used for internal and external purposes may differ from department to department. Additionally, formal implementation of systematic program reviews, planning and evaluation procedures, and internal institutional effectiveness analysis could increase what needs to be collected. For example, more in-depth information on student's study habits, work and family obligations and recreational uses of time have shown in previous studies to be useful in understanding differences in student academic performance when all other factors appear similar and may be a meaningful addition to an institutional effectiveness analysis. Additionally, correlating the services used by the students on campus with student outcomes may also become an important institutional effectiveness indicator that would also impact program reviews and planning analyses. That said, at the current level of internal data/ information usage, little level five (actionable intelligence) data is generated. Although, on occasion, challenging teaching and learning oriented questions have resulted in level five data, should these additional executive functions become institutionalized, the internal usages of level five data would become more evident at the College.

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A.   Institutional Site File Data Dictionary Summary

B.   Program Inventory File Data Dictionary Summary

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