

# A Response From Hillsborough Community College to a Data Quality Site Review

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*August 2007*

## **A RESPONSE FROM HILLSBOROUGH COMMUNITY COLLEGE TO A DATA QUALITY SITE REVIEW**

Hillsborough Community College (HCC) seeks to continually improve the integrity of its data systems. In the summer of 2006, President Gwendolyn Stephenson appointed a Program Coding Task Force to find “ways in which program codes can be more accurately assigned to students throughout their tenure at HCC.” The first recommendation of the Task Force was to “schedule a Data Quality Site Review by the Florida Department of Education and follow-up on recommendations.”

Five staff from the Bureau of Community College and Technical Center Management Information Systems (CCTCMIS) of the Florida Department of Education conducted a site visit from November 13 to 15, 2006 in which they met with numerous individuals at the district office as well on the campuses. The purpose of the visit was to review procedures for data collection and reporting that impact State and Federal reports and to make recommendations for process improvement. The final report, containing fourteen recommendations, was received by the College in June 2007.

This report documents our initial attempts to address the recommendations. In the remaining pages, prefacing contextual remarks and the recommendations are extracted from the Site Visit report. Every recommendation is followed by brief statements of the institution’s report of progress.

**Recommendation #1**

IT staffing, while appearing adequate in overall numbers, appears to be on the short side when considering the "pure programming" staff, those that are often called the "data processing" staff. While Hillsborough has recently expanded their programming staff, colleges of comparable size usually maintain a staff somewhat larger than the five positions at Hillsborough.

The need for increased data processing staff is also justified due the backlog of requested services. Statewide mandated changes are still pending far beyond the date when some should have been implemented. One case in point would be the Adult Hours for FTE reporting and the related withdrawal process. Also, the Datatel software features tools that could /should have been implemented, but the lack of resources have prevented development in that area.

*Evaluate IT staff resource distribution. Consider dedicated staff to implement available software tools*

**Institutional Response:**

As a result of the data quality review and a recognized shortage of programming staff, the College approved the hiring of 4 new programmers for the 2007-08 fiscal year. Due to the state-wide budget reductions, the number of new programmers has been reduced to 2 for the current fiscal year. The search will remain open so if qualified programmers beyond 2 individuals are found, contractual agreements can be pursued.

**Recommendation #2**

On a related staffing issue, turn-over and therefore retention of key staff is an issue everywhere. Hiring, and retaining, qualified staff usually means providing a quality employment package. That is especially important in the IT areas, and the position of Records Specialist. The former is obvious with the IT market as it is, but the Records Specialist plays one of the most important roles in data collection and reporting. This person is usually the very first to interface with a student or their information and eventually input those data into a local data base. If a mistake is made, it will often trickle all the way to Washington, D.C. in the form of federal reports.

*Develop aggressive staffing plans that would provide for quality recruiting and retention.*

**Institutional Response:**

Staffing in all areas at all campuses could be increased. There has been turnover in some offices while other offices have experienced little staff change over the years. In addition to in-office training, HCC has offered Admissions, Registration and Records Forums to discuss the importance of data accuracy and the role each staff member has in data integrity as it relates to student records and state reporting. There have also been dialogues with academic advisors regarding the need for putting students in the right academic program and the relationship of hours to degree and program progression.

### **Recommendation #3**

When any college submits their data to FDOE, the data are "loaded" if all edits are successful. Upon loading, dozens of "verification" reports are generated. These reports are made available, electronically, to the Reports Coordinator at the institutions. It was determined during our visit that the major responsibility of reviewing this large volume of data was being handled by this single individual.

*Reports should be disseminated to a wider (relevant) audience for review and ultimate feedback to the Reports Coordinator.*

#### Institutional Response:

Beginning with spring semester 2007, the Director of Management Information Systems (MIS), who also serves as the Reports Coordinator, and the Special Assistant to the President for Strategic Planning & Analysis brought preliminary data to a meeting of deans/directors for their review. This has been followed by additional electronic distributions to the same audience. It is apparent that due to their lack of background in reviewing data, their feedback is limited though they are chief stakeholders to an accurate portrayal of the productivity of their programs. Thus, it is incumbent that this effort persist coupled with explanations of what the data mean. To this end, the review by the stakeholders will become more valuable to improving the accuracy of the data submitted.

### **Recommendation #4**

Two important issues came to light during campus visits with Records Specialists. There are no "required" fields for data entry, and there are not edits on data entry input. The former allows for "blank" data fields to be moved forward into the databases. Even if automated decisions are made to "fill" blank fields, seldom is the assumption correct. The latter allows for data to be inputted that is totally unreasonable, such as a Date of Birth of 1846 or 2004. Consideration of these issues, when resources permit, should help to minimize data entry errors.

*Implement local data edits to prevent blank data fields in the local data base.*

#### Institutional Response:

Local data edits have been developed for each record type on the Student, Personnel and Facilities Data Bases. Critical and informational errors can now be identified and corrections can be made prior to submitting the State files. Modifications to the Datatel Colleague forms (screens) to require certain fields be populated prior to saving the information has not been addressed at this time. Enhancements such as required fields for data entry will be considered after the implementation of the Datatel Colleague Workflow feature.

### **Recommendation #5**

Continue to provide (refresh) training to all data entry staff and keep them informed about the importance of their function and the impact of data and reporting on the college. Training should be a continuous "in-service" effort directed at all levels of staff, not just data entry, but include any position that is impacted by data.

The wider dissemination of verification reports (see item 3 above) should also be accompanied by training of those individual that will be reviewing the data. Training to the level of data element definitions would be an asset to those staff tasked with analysis of the verification reports.

*Ensure that refresh training is accomplished. Also, develop the necessary training for staff that will be involved with the verification report review process.*

Institutional Response:

The Director of MIS provides training on a continuous basis to a diverse audience of data entry personnel and data users. Two upcoming developments will further enhance training efforts if fully utilized. First a space dedicated primarily to training on the enterprise software (Datatel Colleague) has been designated and outfitted with appropriate computers, presentation technology, and furniture at the District Administrative Offices. To date, additional electric and networking lines have to be dropped before use of this facility can begin. Second, the Institutional Effectiveness Analyst has been made available for the expansion of training efforts. For a large multi-campus institution, this will help in covering the district's training needs. This will also make more training opportunities available during routine in-service workshops scheduled during the fall and spring semesters.

Formal training of stakeholders such as deans/directors in the verification of data has not begun but is an important element toward addressing recommendation #3 as well as recommendation #5.

**Recommendation #6**

Frequent multiple data submissions in the same term are time consuming and inefficient. Institutions often submit in this fashion solely for the purpose of "editing". This is not necessary since the same edit programs used at FDOE during data submission periods are available to institutions to use locally.

*Consider using the FDOE edit programs locally to verify data before submission to FDOE.*

Institutional Response:

A planning objective within the areas of strategic planning/institutional research/MIS has identified the need to implement the SAS verifications reports. This objective will be pursued within the 2007-09 planning biennium.

**Recommendation #7**

Data submissions occurring as early as possible after the window opens allows the maximum opportunity to review verification reports and resolve any existing data anomalies that might be discovered.

*Consider reviewing the timing of data submission activity. This would include altering local processes to allow data submission files to be available earlier than they are currently.*

Institutional Response:

Local data edits have been developed for each record type on the Student, Personnel and Facilities Data Bases. Critical and informational errors can now be identified and corrections can be made prior to submitting the State files. In addition, local queries have been developed to identify missing or invalid data on the Student Data Base that are run periodically throughout the term and disseminated to the campuses for review and correction.

**Recommendation #8**

We sensed a "disconnect" between the Management Information Systems (MIS) staff and the Information Technology (IT) staff. This may be a communications problem, a coordination problem, or an organizational control issue.

*These two areas must develop a better working relationship in order for data reporting to be correct and for data quality to rise. Better communications, perhaps via some sort of process review team (including staff from each area) would be advisable.*

Institutional Response:

Great strides have been made in 2006-07 toward improvements in the working relationships of MIS and IT. This is evidenced, in part, by meeting state certification deadlines for the spring and annual data submissions – heretofore an uncommon event. This requires a cooperative effort involving many. IT has also developed valuable diagnostic tools for the Director of MIS to allow her to locate data problems and their root cause.

Within the last year, an Administrative Systems Advisory Council (ASAC) has been established composed of Cabinet Officers and locally designated “systems agents” to prioritize IT projects and plan for their coordinated implementation.

**Recommendation #9**

There appears to be a lack of synchronization between campuses, even with consideration of similar staff operational functions. Example 1: Orientation of First Time in College (FTIC) students is required at one campus and optional for students at another campus. Example 2: A lack of operational synchronization of the course scheduling at various campuses.

*Coordination among campus operations will provide a clearer understanding for students and allow for more consistency with regard to data overall.*

Institutional Response:

With the implementation of Imaging software, the Student Services areas, specifically the Admissions, Registration and Records offices have begun to review all processes,

procedures and district-wide policies with the goal of achieving more cohesive and consistent business practices.

**Recommendation #10**

Students with multiple or mis-coded program codes cause serious problems with data reporting and data integrity. The former allows for inflated enrollment numbers and misrepresents data cohorts, such as vocational student pools. The latter adversely impacts issues like graduation rates.

*Use of a "general freshman" category will allow students to be counted properly prior to official entry into a program. The general freshmen are not included in graduation rate computations.*

Institutional Response:

To date, a project request to IT to begin use of the General Freshman category has been issued and prioritized by the ASAC. It is slated for implementation in 2008.

**Recommendation #11**

As proposed by the internal task force, we concur that a process to identify students as they achieve benchmarks such as 15, 30, and 45 hours toward the completion of their program will be very advantageous. Such a process will assist staff in decision to accept or deny students entry into controlled programs, help verify correct use of program codes, and minimize excess hours taken by students.

*Implement recommendations from the Program Code Taskforce.*

Institutional Response:

Efforts to implement recommendations from the Program Coding Taskforce are in concert with those of the Data Quality Site Review. The most recent report of progress has been appended to this document.

Similar to the response above, a project request to IT has been submitted to identify students at the 15/30/45 hour thresholds. It has been ranked 3<sup>rd</sup> in prioritization by the ASAC for implementation in 2008.

**Recommendation #12**

There was some early consideration that students could accomplish program choice on their own. After interviewing several staff, in several capacities, it appears to be almost a consensus opinion, and ours as well, that students always require some level of staff assistance when choosing and changing programs.

*Develop processes that would always provide some level of staff assistance for students when initially choosing their program of study, and when considering a change of program.*

Institutional Response:

HCC currently provides the following on-line assistance: advising guides for each academic program and degree audit available via FACTS.ORG and HawkNet. The College has purchased E-Advising which will provide the student on-line assistance in the form of a student educational planner which will blend the degree audit and registration functions. However, academic advisors are available to explain how a student's choices have and will impact their goals when a change is made. They take into consideration transferability of coursework and statewide articulation agreements when discussing the student's options.

**Recommendation #13:**

While interviewing Hillsborough staff, several comments were made referencing the Datatel Software not being very robust, nor did it provide flexibility, i.e., easy to change and modify. Our findings point more to this being a staffing resource issue, not a problem with the core software. Several available modules/tools of the software simply have not been put into use due to workload and staffing issues.

*Dedicate needed resources to develop and implement the software modules that will provide the robust environment desired.*

Institutional Response:

All complex ERP software packages have strengths and weaknesses. Datatel Colleague is no different from their competitors. Datatel Colleague's strength is in its ability to process a very high volume of transactions quickly. Its greatest weakness is its reporting ability. It requires a depth of knowledge about its data structure that is beyond the casual user, therefore 'getting data out' is cumbersome and not for the faint-hearted.

When Datatel Colleague was initially implemented the goal college-wide was to implement a 'plain vanilla' version of Colleague. The idea behind this implementation philosophy was to modify the College's business processes to adapt to Colleague's capabilities and not modify the product except in extenuating circumstances. In many instances what resulted was to maintain current business processes but create labor intensive 'work-arounds' that added significant complexity and hand labor to many business processes and did not take advantage of the automation provided in the Datatel Colleague product line.

It is correct that some modules were purchased and never implemented. There are a variety of reasons for this delay in implementation some being complex technical issues. Nonetheless, the focus now is on re-evaluating all of the modules currently owned by HCC to determine if value could be gained from implementing these modules in conjunction with a review and potential modification of the current business processes, college-wide. The goal being to better align our business processes with the unused capabilities of the Datatel Colleague product.

A second effort is to create a new flexible reporting environment that focuses on providing browser based, easily accessible, flexible reporting system that will support data-driven decision-making across the college.

**Recommendation #14**

Simple errors often occur during initial data entry. Students have no opportunity to observe (proof), therefore confirm the validity of their demographic data when inputted into the local data base. A simple review could easily detect and allow for correction of simple items like residency, gender, race, name spelling, etc.

*Review could be accomplished via a paper insert into the student acceptance letter and/or enhancement of the web screen already available to students, but which displays only partial data.*

Institutional Response:

Through the use of the communications management module in our administrative software, a welcome letter is generated to accompany the admissions packet. The body of the letter includes student name and address, academic program, and residency status. This information is also available on-line via HawkNet in the student profile screen. On campus, edit reports identifying database errors are generated for review by staff throughout the term.

## **Program Coding Task Force, Implementation of Recommendations**

### **Status of Progress, August 2007**

#### **1. Schedule Data Quality Site Review**

Done. First progress report to the FDOE has been completed.

#### **2. Monitor headcount enrollments: 1) develop an internal unduplicated enrollment report and 2) expand review of the official headcount report (AA1A) to stakeholders.**

Completed an Annual Unduplicated Enrollment Report with distribution to HCC Community and a presentation to the BOT in Dec. 2006. This has been followed by a Fall Semester Report issued in spring 2007. Spring Semester and the next Annual Report are upcoming.

A regular review of the AA1A began in spring semester 2007 with deans/directors. Due to their unfamiliarity with the data, their feedback was limited. This effort must continue for stakeholders to provide value-added input into the accuracy of the data reflecting the programs they manage.

#### **3. Use the most recently applied program as a student's official program code.**

This effort has been replaced by one in which the student's official code is the one in which they have the most activity. Additional investigation is needed here to determine if this approach reflects the students' intended educational pursuit.

#### **4. Refine business rules & programming logic impacting state reporting with special emphasis on data supporting state performance measures, i.e. FTIC.**

Efforts have been made to correct the programming issues leading to an inaccurate identification of the FTIC. At present, IR is conducting a study to determine the degree of error in past reporting of FTIC..

#### **5. Automated notification to students after having completed 15/30/45 college credit hours to verify their program code.**

A project request to IT has been submitted and ranked 3<sup>rd</sup> in prioritization by the ASAC for implementation in 2008.

#### **6. Develop & implement auto-graduator routine with first phase restricted to college credit certificate programs.**

This has been identified as priority #4 by the ASAC. It's projected start date for development is 2008.

#### **7. Implement Datatel's E-Advising system.**

An IT project request has been completed and ranked #5 in priority by the ASAC. The programs have been received but implementation is slated for 2008.

#### **8. Implement "General Freshman" designation.**

To date, a project request to IT to begin use of the General Freshman category has been issued and prioritized by the ASAC. It is slated for implementation in 2008.

#### **9. Eliminate option of allowing students to have two degree program codes (i.e. AA and AS, or two different AS, etc.)**

Implementation of recommendation #3 should remedy this. It should be recognized that some students are deliberately pursuing two degrees (i.e. nursing).

#### **10. Produce class section rosters with student program codes for faculty verification.**

This is available but usage varies widely. Eventually, the rosters should be available for online verification.

**11. Develop an alternative program code for financial aid funding instead of dumping them in AA.**

Director of Financial Aid shares that there were technical degree programs that were ineligible to receive financial aid for their students. This was due to not having them on a federal listing of eligible programs. She has updated the federal roster for those programs that HCC's internal computer programs will accept (all but short-term programs that don't meet institution-imposed thresholds for credit or clock hours).

**12. Use Campus Cruiser to allow students to verify the accuracy of their program codes.**  
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On hold. Campus Cruiser has some operational problems to resolve before implementation of the recommendation.

**13. Have a workshop with student services personnel on program coding.**

A meeting was held with the new VP of Student Services. Subsequently additional meetings have occurred regarding the importance of accurate program coding among student services deans and Admissions/Registration/ & Records personnel.

**14. Provide clear cut direction about program codes and criteria to staff/advisors/faculty.**

See recommendation #13, 10. Continue to maintain awareness of the issue in newsletters, research briefs, all college-day, faculty in-service, etc.

**15. Appoint task force to review the entire advising system.**

The new VP of Student Services has appointed an Enrollment Management Steering Committee that will be examining this issue among others. The inaugural meeting of the Committee is slated for September 14.