



Fall 2015 Students who were dropped for Non-Payment by Enrollments, Demographics, Course Success, and the Relationship between Pay Period and Balance Owed

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Purpose of Brief

The purpose of this brief is to explore the effects of students being de-registered for non-payment by college.

Summary of Findings

Crafton Hills College

- 1,457 Fall 2015 Crafton students were dropped due to non-payment
- 75% earned a GOR in Fall 2015
- 62% re-enrolled in the same section that they were dropped from
- There was no disproportionate impact
- 59% of the students dropped due to non-payment received financial aid
- Crafton may generate an additional \$431,000 in revenue by not dropping students for non-payment
- Students who were dropped due to non-payment (63%) were statistically significantly and substantially less likely to complete their courses successfully than students in the same section, who were not dropped due to non-payment, & received financial aid (73%)

San Bernardino Valley College

- 2,830 Fall 2015 Valley students were dropped due to non-payment
- 71% earned a GOR in Fall 2015
- 56% re-enrolled in the same section that they were dropped from
- Disproportionate impact occurred among African American students
- 75% of the students dropped due to non-payment received financial aid
- SBVC may generate an additional \$1.4 million in revenue by not dropping students for non-payment
- Students who were dropped due to non-payment (60%) were statistically significantly and substantially less likely to complete their courses successfully than students in the same section, who were not dropped due to non-payment, & received financial aid (69%)

Overview

The purpose of this brief is to explore the effects of students being de-registered for non-payment by college. Specifically, the research illustrated here identifies the number of students de-registered for non-payment in Fall 2015, the number of enrollments impacted by students being de-registered, the demographics of students who were deregistered and whether disproportionate impact exists, the relationship between the length of the pay period and the balance owed, and a comparison of the course success rate of students who were de-registered and stayed enrolled in any course compared to students who were enrolled in the same section, not de-registered due to non-payment, and received financial aid.

Background

The history of processing students who have not paid for their courses moved from a manual process to an automated process and was different for both colleges. Crafton gradually reduced the number of days students had to make their payment and transitioned to one day in 2008 and same day in Fall 2012. Valley reduced the number of days from 5 to 3 in Spring 2006, and from 3 to the same day requirement to pay somewhere between Spring 2013 and Fall 2015. Based on the data the same day requirement was estimated as Fall 2013 for SBVC.

Initially, non-payment drops were processed manually from 1999 to 2004 and required a dedicated staff member weeks to complete one report. In Spring 2005 the automated DREG (deregistration) process in Colleague was fully functional at Crafton and reduced processing time for drops from an entire week to a few hours. At first, the DREG automated process deferred student payments for three business days and resulted in inaccurate drops. In 2006 the DREG process was improved by modifying the programming to process the drops more accurately. Next, in 2008 the number of days allowing students to pay was reduced to one day, which helped to make the DREG process more accurate. In 2009 the process was improved again by completely automating the DREG process, allowing the non-payment process to be ran after office hours and reducing the impact on the server to almost zero.

The automation process is contingent on the one day payment period in that the automation can only run either by second, minute, hour, day, week or month. Running the automation process in an interval other than ones mentioned above opens the possibility of missing students who should otherwise be dropped. Specifically, because of limitations of programming and Colleague, the system has problems and produces inaccurate drops if the timeframe is anything longer than the same day.

Methodology

The [Student's Dropped for Non-Payment](#) Entrisik Informer Report was used to identify Fall 2015 students' who were dropped for non-payment by college and term. The report pulls the following field from STUDENT.ACAD.CRED to identify whether or not the student was dropped for non-payment: STC.STATUS.REASON.

In addition to identifying the number of students who were dropped for non-payment by gender, ethnicity, age, and economically disadvantaged status, disproportionate impact was also examined. Disproportionate impact occurs when the percentage of persons from a particular racial, ethnic, gender, age, or income group have a statistically significantly and substantially lower success rate than the reference group. The reference group in this case was all the Fall 2015 students who earned a grade on record (i.e. A, B, C, D, F, I, P, NP, or W) at each college.

The XOBN report in Colleague was next used to identify the amount that students owed at each college by fall term from Fall 2003 to Fall 2015. This information was compared to the length of the payment period for each term to examine if there was a relationship between the length of the payment period to the balance owed. Tables 7 and 7A illustrate the estimated amount that Fall 2015 students who were dropped for on-payment owed as well as the possible revenue generated after subtracting the amount owed. A limitation is that not all of the students who were dropped for non-payment will remain in the section past census. Accordingly, the estimated resource allocation is most likely an over estimate.

Students who were de-registered for non-payment in Fall 2015 were compared on course success to students who earned a grade on record (GOR) in the same section. Course success refers to earning a grade of A, B, C, or P, and a GOR is a grade of A, B, C, D, F, I, P, NP, or W. The effect size statistic was used to indicate the size of the difference on student course success between students who were dropped for non-payment and students who earned a grade on record in the same section and received financial aid. One method of interpreting effect size was developed by Jacob Cohen. Jacob Cohen defined "small," "medium," and "large" effect sizes. He explained that an effect size of .20 can be considered small, an effect size of .50 can be considered medium, and an effect size of .80 can be considered large. Research in the social sciences has indicated that a substantial effect is considered meaningful if the effect size is .10 or higher. It is important to mention that the number of students in each group does not influence Effect Size; whereas, when statistical significance is calculated, the number of students in each group does influence the significance level (i.e. "p" value being lower than .05).

Limitations

One of the questions asked when this research request was received was whether or not it is more cost effective to de-register students for not paying or to not de-register students and collect the FTES that would be generated. A sound methodology for how to explore this question further needs to be developed. Looking at the FTES that might be generated and comparing that to the amount owed would strongly suggest that it is more cost effective to not drop students for non-payment. However, there is no information to indicate that the amount of FTES generated would change based on changing the pay period length requirements. In addition, there is also no way to determine if students were allowed to remain in a section for longer periods of time would lead to larger amount of FTES unless the District was willing and able to offer sections for free.

The information generated from the balance owed is also limited based on when the data was pulled. The balance owed for each term changes based on when the information is downloaded. Specifically, as time passes the amount owed decreases.

Finally, further research needs to be conducted in order to thoroughly examine the relationship between pay period length and the dropping of students for non-payment. Specifically, time constraints did not allow for longitudinal comparisons. In addition, in order to more accurately examine the relationship between pay period length and balance owed the balance owed data would need to be generated at the same time at the end of every semester to generate a more accurate and consistent comparison.

Findings

Tables 1 and 2 illustrate the number of Fall 2015 unduplicated students by college who were dropped due to non-payment and who earned a GOR in Fall 2015 and who earned a GOR in Fall 2015 or Spring 2016. Specifically, 75% of Crafton students and 71% of Valley students who were dropped due to non-payment in Fall 2015 earned a GOR in Fall 2015. In addition, 81% of Crafton students and 78% of Valley students who were dropped due to non-payment in Fall 2015 earned a GOR in Fall 2015 or Spring 2016.

Table 1: Number and Percent of Unduplicated Students who were De-Registered (DREG) in Fall 2015 due to Non-Payment and who completed a GOR in Fall 2015.

Location	GOR in Fall 2015	Total DREG	% GOR in Fall 2015
CHC	1,090	1,457	74.8
SBVC	2,830	3,994	70.9
SBCCD	3,930	5,385	73.0

Table 2: Number and Percent of Unduplicated Students who were De-Registered (DREG) in Fall 2015 due to Non-Payment and who completed a GOR in Fall 2015 or Spring 2016.

Location	GOR in Fall 2015 or Spring 2016	Total DREG	% GOR in Fall 2015 or Spring 2016
CHC	1,186	1,457	81.4
SBVC	3,114	3,994	78.0
SBCCD	4,301	5,385	79.9

Table 3 illustrates the number and percent of Fall 2015 student enrollments who were dropped due to non-payment, but were able to re-enroll in the same course in Fall 2015 and earn a GOR. Fifty-four percent of Crafton student enrollments and 49% of Valley student enrollments were dropped due to non-payment but were able to re-enroll and earn a GOR in the same course in Fall 2015.

Table 3: Number and Percent of Sections that Students were De-Registered (DREG) in Fall 2015 due to Non-Payment and Completed a GOR in the same course in Fall 2015.

Location	GOR in Course DREG from in Fall 2015	Total Sections DREG	% GOR in Fall 2015
CHC	1,801	3,344	53.9
SBVC	4,309	8,879	48.5
SBCCD	6,110	12,223	50.0

In addition to showing the number and percent of Fall 2015 student enrollments who were dropped due to non-payment, but were able to re-enroll in the same course and earn a GOR, Table 4 also shows the students who dropped by choice, received an instructor drop, or dropped because the section was cancelled. Specifically, the results in Table 4 include all of the sections in which students were able to re-enroll after being dropped due to non-payment. Sixty-two percent of Crafton student enrollments and 56% of Valley student enrollments were dropped due to non-payment but were able to re-enroll in the same course in Fall 2015.

Table 4: Number and Percent of Sections that Students were De-Registered (DEREG) in Fall 2015 due to Non-Payment and Completed a GOR in the same Fall 2015 section, Dropped by Choice, Received an Instructor Drop, or where the Section was Cancelled.

Location	Completed in Fall 2015 or Did Not Drop because of Non-Payment*	Total Sections DEREG	% Did Not Drop because of Non-Payment in Fall 2015
CHC	2,085	3,344	62.4
SBVC	4,927	8,879	55.5
SBCCD	7,012	12,223	57.4

*Student completed the course they were dropped from due to non-payment with a grade on record, dropped by choice, received an instructor drop, or the section was cancelled.

Tables 5 and 6 examine disproportionate impact to identify any gender, ethnic, age, or economically disadvantaged group that was more likely to be dropped for non-payment. There was no disproportionate impact at Crafton and one group appeared to be disproportionately impacted at Valley. There was a statistically significant and substantially higher proportion of Fall 2015 SBVC African American students who were dropped for non-payment (19%) than the proportion of Fall 2015 SBVC African Students who earned a GOR (12%). In addition to disproportionate impact, Tables 5 and 6 also identify the number and percent of students who were dropped for non-payment who received financial aid in Fall 2015. Fifty-nine percent (n = 853) of Crafton students and 75% of Valley students (n = 2,993) who were dropped due to non-payment received some form of financial aid in Fall 2015

Table 5: Gender, Ethnicity, and Age of Fall 2015 Crafton Hills College Students who were DREG and of all Fall 2015 CHC students who earned a GOR.

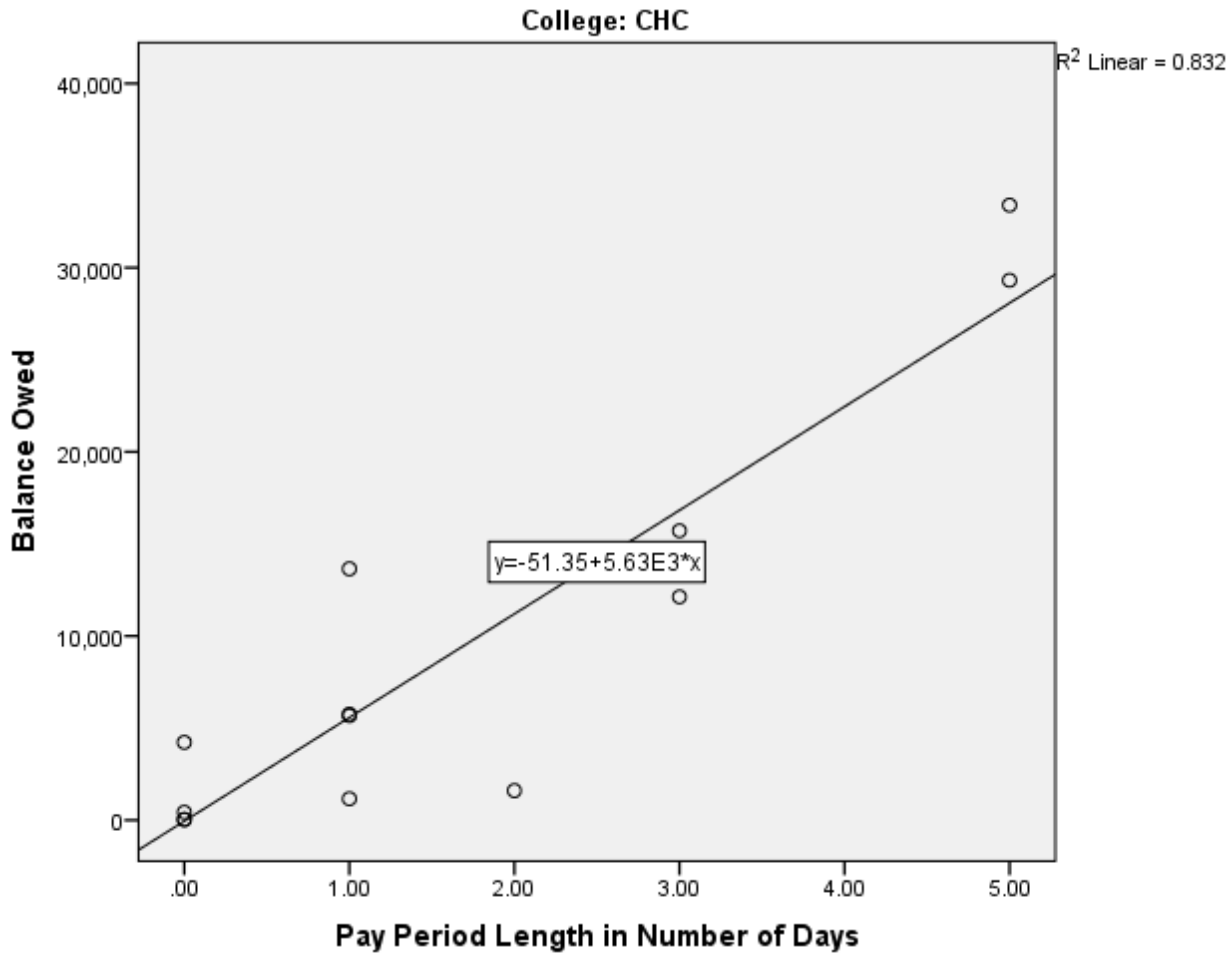
Demographics	De-Registered		All CHC Students		Statistically Significant	Substantial Difference	Disproportionate Impact
	#	%	#	%			
Gender							
Female	828	56.8	3,197	53.2	Yes	No	No
Male	626	43.0	2,802	46.6	Yes	No	No
Unknown	3	0.2	12	0.2	No	No	No
Total	1457	100.0	6,011	100.0			
Ethnicity							
African American	98	6.7	232	3.9	Yes	No	No
Asian	86	5.9	318	5.3	No	No	No
Caucasian	469	32.2	2,283	38.0	Yes	No	No
Hispanic	714	49.0	2,769	46.1	Yes	No	No
Multiple Races	86	5.9	369	6.1	No	No	No
Native American	2	0.1	23	0.4	No	No	No
Unknown	2	0.1	17	0.3	No	No	No
Total	1,457	100.0	6,011	100.0			
Age							
1. 19 or younger	338	23.2	1,882	31.3	Yes	No	No
2. 20-24 Years Old	622	42.7	2,408	40.1	No	No	No
3. 25-29 Years Old	234	16.1	795	13.2	Yes	No	No
4. 30-34 Years Old	134	9.2	378	6.3	Yes	No	No
5. 35-39 Years Old	54	3.7	207	3.4	No	No	No
6. 40-49 Years Old	45	3.1	212	3.5	No	No	No
7. 50 or Older	30	2.1	129	2.1	No	No	No
Total	1,457	100.0	6,011	100.0			
Financial Aid							
No	604	41.5	2,647	44.0	No	No	No
Yes	853	58.5	3,364	56.0	No	No	No
Total	1,457	100.0	6,011	100.0			

Table 6: Gender, Ethnicity, and Age of Fall 2015 San Bernardino Valley College Students who were DREG and of all Fall 2015 SBVC students who earned a GOR.

Demographics	De-Registered		All SBVC Students		Statistically Significant	Substantial Difference	Disproportionate Impact
	#	%	#	%			
Gender							
Female	2,367	59.3	7,677	58.0	No	No	No
Male	1,623	40.6	5,548	41.9	No	No	No
Unknown	4	0.1	21	0.2	No	No	No
Total	3,994	100.0	13,246	100.0			
Ethnicity							
African American	770	19.3	1,593	12.0	Yes	Yes	Yes
Asian	141	3.5	577	4.4	Yes	No	No
Caucasian	388	9.7	1,812	13.7	Yes	No	No
Hispanic	2,471	61.9	8,630	65.2	Yes	No	No
Multiple Races	202	5.1	564	4.3	Yes	No	No
Native American	5	0.1	26	0.2	No	No	No
Unknown	17	0.4	44	0.3	No	No	No
Total	3,994	100.0	13,246	100.0			
Age							
1. 19 or younger	867	21.7	3,122	23.6	Yes	No	No
2. 20-24 Years Old	1,452	36.4	4,764	36.0	No	No	No
3. 25-29 Years Old	708	17.7	2,169	16.4	Yes	No	No
4. 30-34 Years Old	347	8.7	1,092	8.2	No	No	No
5. 35-39 Years Old	220	5.5	677	5.1	No	No	No
6. 40-49 Years Old	238	6.0	834	6.3	No	No	No
7. 50 or Older	162	4.1	588	4.4	No	No	No
Total	3,994	100.0	13,246	100.0			
Financial Aid							
No	1,001	25.1	3,287	24.8	No	No	No
Yes	2,993	74.9	9,959	75.2	No	No	No
Total	3,994	100.0	13,246	100.0			

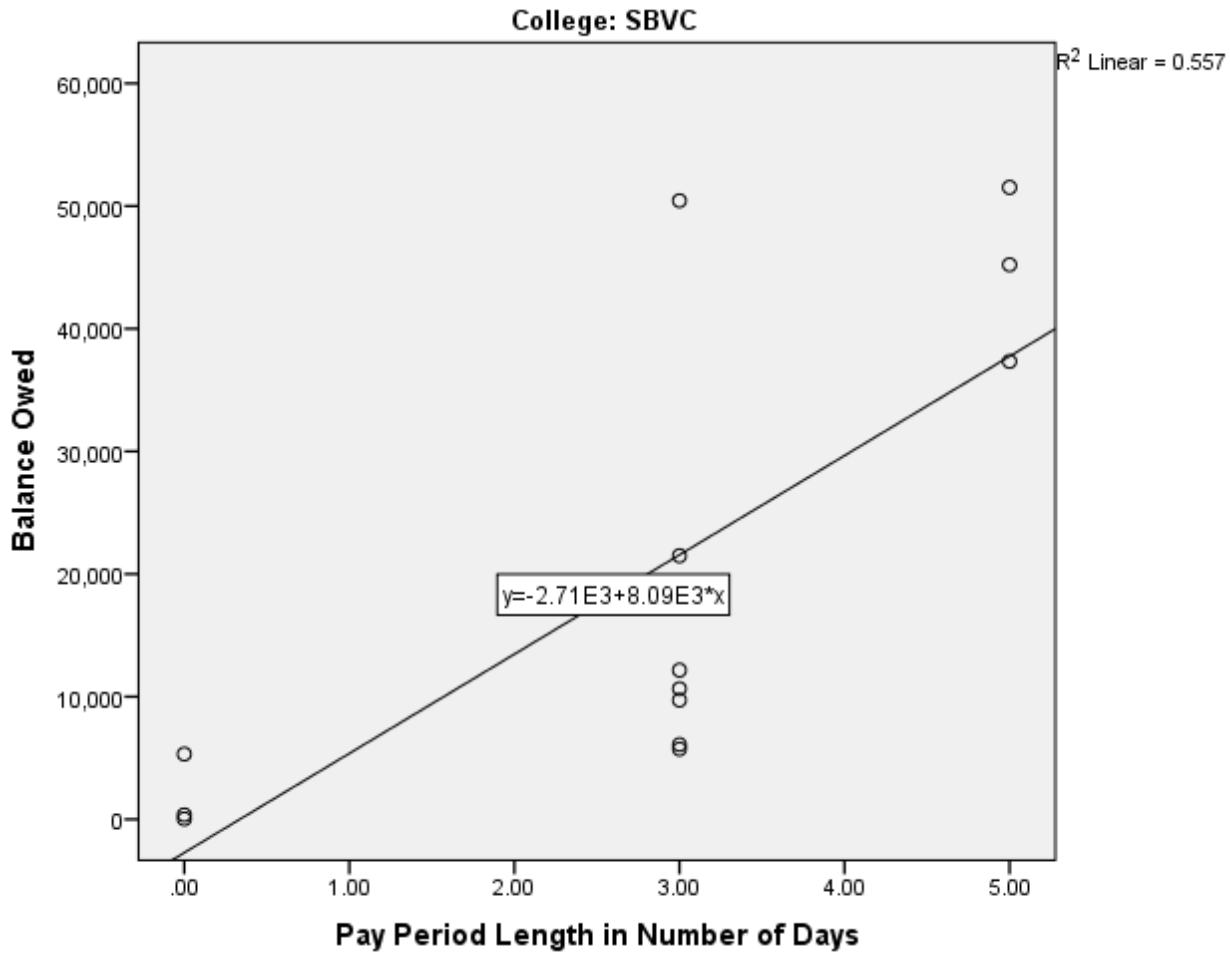
Figures 1 and 2 illustrate the relationship between pay period length and balance owed by College for fall terms from Fall 2003 to Fall 2015. The results indicate a very strong relationship between pay period length and the balance owed. This relationship appears to be stronger for Crafton. As the pay period length decreases the balance owed decreases.

Figure 1: The relationship between Pay Period Length and Balance Owed for Crafton Students for fall terms only from Fall 2003 to Fall 2015.



Note: The "0" pay period refers to same day.

Figure 2: The relationship between Pay Period Length and Balance Owed for San Bernardino Valley College Students for fall terms only from Fall 2003 to Fall 2015.



Note: The "0" pay period refers to same day.

Tables 7 and 7A illustrate the estimated amount of money owed by students who were dropped for non-payment, estimated FTES, and the possible revenue generated for all resident students who were dropped for non-payment and were not enrolled at census. **A limitation is that not all of the students who are dropped for non-payment will remain in the section past census. Accordingly, the estimated resource allocation is most likely an over estimate.** Keeping the limitation in mind Crafton may generate an additional \$431,000, Valley an additional \$1.4 million, and the district an additional \$1.8 million.

Table 7: The Total Estimated Amount that Fall 2015 Students Owed for Non-Payment based on the Number of Units Students were Dropped for Non-Payment by College.

College	Total Units				Total Owed
Crafton	3,627	*	\$46	=	\$166,842
Valley	11,975.5	*	\$46	=	\$550,873
Total	15,602.5	*	\$46	=	\$717,715

Table 7A: The Total Estimated FTES and Possible Revenue for Fall 2015 Students who were Dropped for Non-Payment by College.

College	Estimated FTES				Total Estimated Resource Allocation		Total Owed	Total Possible Revenue
Crafton	120.90	*	\$4,943.24	=	\$597,638	-	\$166,842	\$430,796
Valley	399.18	*	\$4,943.24	=	\$1,973,243	-	\$550,873	\$1,422,370
Total	520.08	*	\$4,943.24	=	\$2,570,880	-	\$717,715	\$1,853,165

Table 8 shows the overall Fall 2015 course success rate of students who were dropped for non-payment compared to students enrolled in the same sections who were not dropped for non-payment and received financial aid. The results indicate that students who were dropped for non-payment were much more likely to struggle when compared to students in the same section who received financial aid. Specifically, Fall 2015 Crafton students who were dropped due to non-payment (63%) were statistically significantly and substantially less likely to complete their courses successfully than students in the same section, who were not dropped due to non-payment, and received financial aid (73%). Moreover, Valley students who were dropped due to non-payment (60%) were statistically significantly and substantially less likely to complete their courses successfully than students in the same section, who were not dropped due to non-payment, and received financial aid (69%).

Table 8: Overall Fall 2015 Course Success Rate of Students who were Dropped for Non-Payment Compared to Students Enrolled in the Same Section who were not dropped for Non-Payment and Received Financial Aid.

College	De-Registered			Not De-Registered, In Same Section, and Received Financial Aid			Statistically Significant	Substantial Difference
	#	N	%	#	N	%		
CHC	1,953	3,125	62.5	6,030	8,260	73.0	Yes	Yes
SBVC	4,387	7,378	59.5	14,699	21,916	67.1	Yes	Yes
Total	6,340	10,503	60.4	20,729	30,176	68.7	Yes	Yes

Note: "#" refers to the number of successful grades, "N" refers to the number of grades on record (GOR), and "%" refers to the success rate.