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TO: Linda Buckley, Office of Academic Planning and Development
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RE: HED Writing Assessment Report

BACKGROUND

There is a growing trend across the country to support writing across the curriculum--instead of situated in the silos of English or composition department--by housing fully integrated writing intensive courses in upper division departments and disciplines. However, writing studies conducted in higher education institutions do little to measure direct student learning outcomes among students who write in the disciplines. Few longitudinal writing studies of any scale have been conducted and little is known about how writing develops, particularly among upper division students. Studying writing in context of a university-wide writing policy such as GVAR can have a considerable impact on writing policy and practices at SFSU and across the CSU system. Findings may provide the empirical evidence to validate SFSU's decision to eliminate the JEPET and encourage other CSU campuses to follow suit. This study augments assessments previously conducted by International Relations, Philosophy, and ongoing studies by WAC/WID.

METHODS

This assessment used a mixed methods sequential explanatory design to examine writing development among various HED student samples in three phases:

1. **Student records were statistically analyzed among 92 HED students who completed a GVAR course in spring 2011 to examine differences in GVAR grade by student level, transfer status, ethnicity, and JEPET performance.** Student records data were acquired through the SFSU's Division of Academic Affairs and cleaned and organized in Microsoft Excel file before being exported to SPSS. GVAR grade was selected as the dependent variable and the following independent variables were identified and collected: gender, ethnicity, class level, transfer status, major, department, JEPET status, units earned, grade in lower division writing courses, English placement scores, high school GPA, and college GPA. A series of t-tests, ANOVA, and multiple regression analyses were conducted as well as descriptive statistics and frequencies.
2. **Writing samples were scored and analyzed longitudinally among 41 students who took HED 400 GVAR in fall 2009 or spring 2010 then completed the capstone course, HED 480, in spring or summer 2011.** Writing samples were collected at two points--from the writing intensive, junior level, major portal course (HED 400 GVAR) in fall 2009 and spring 2010 (T1) then again from the capstone course (HED 480) during spring or summer 2011 (T2). Students submitted two papers from HED 400 GVAR and two papers from HED 480. The two papers that were selected for the study most accurately represented the style and genre of writing expected of students in the HED major--analysis. A draft rubric was developed and piloted during the norming session where faculty scored the same students' papers, calibrated scoring patterns, and discussed the usability, accuracy, and validity of the draft rubric. Based on feedback from

this pilot session, the final instrument was adapted from a commonly used rubric developed and validated by the Collegiate Learning Assessment (see attached) which has been used widely across CSU campuses. The rubric was adapted and modified to include criteria that measures indicators specific to the health education major. A team of three faculty readers was hired to score papers. One of the faculty readers did not attend the norming and pilot session, reported difficulty understanding and using the scoring instrument, and consequently submitted incomplete scores for students. Therefore, this reader's scores were not included in the final analysis. Scores were analyzed by individual criteria and aggregated. Data were managed and analyzed in SPSS.

- 3. Individual, in-depth interviews were conducted among 9 students who participated in the longitudinal writing analysis to explain their writing progress, process, and performance in the GWAR course and HED major.** Nine HED students who participated in the longitudinal writing analysis were purposively selected to participate in follow up interviews based on the results of the longitudinal writing component. Six students who scored low in GWAR then high in the capstone course and three of the high range students who scored high in GWAR and then low in the capstone course participated in the interviews. Students participated in either phone or in-person interviews. Questions sought to explain reasons for the growth or decline in writing performance, to understand how students' writing process developed over time, and to understand difference, if any, in transfer and native SFSU students as well as multilingual and monolingual students. All interviews were audiotape recorded with consent. Interview tapes were glossed and transcribed by the researcher. Transcripts were read and analyzed, and an exhaustive index of all codes and themes were developed.

RESULTS

Demographic and Academic Profile of HED GWAR Students in Spring 2011

HED predominantly serves more women than men with 87% female and 13% male and serves a more ethnically diverse population than SFSU overall with 42% Asian, 22% White, 19% Hispanic or Latino, 9% Black or African American, 2% American Indian or Eskimo, 0% Hawaiian or Alaskan Native, and 1% two or more ethnicities, with 4% declining to state their ethnicity. HED students were largely upper division students, also heavily weighted with 64% seniors followed by 35% juniors and 1% sophomores. The HED subset is largely native SFSU students with 71% beginning at SFSU as freshmen and 29% transferring from another institution. This overrepresentation of native SFSU students in the HED subset can be explained by a university-wide enrollment policy that denied transfer students from enrolling in the spring semester. This meant that only students who were native to SFSU or transferred in the fall were allowed to register for HED 400 GWAR in spring 2011. Among the 30 HED students who took the JEPET exam, 30% passed and 70% failed, suggesting that HED serves more students with writing needs than SFSU overall. Sixteen percent of HED students failed the GWAR course on their first attempt compared to 8% of SFSU overall. HED students earn a mean grade of 2.58 (C), a median grade of 3.0 (B), and a mode of 3.0 (B) in the GWAR course. In addition, they earned a mean of 2.89 (C+) in ENG 214, the prerequisite to GWAR.

Demographic and Academic Profile of HED Longitudinal Writing Study Students

The 41 HED students who participated in the study are ethnically representative of the HED subset with 37% Asian, 29% White, 22% Latino, and 12% African American. Among this group, 83% were female and 17% were male, which is also representative of the HED subset. Half of the students transferred from another institution as juniors and the other half began at SFSU as first time freshmen. Twenty of the 41 students (51%) in the sample took the JEPET exam, of which eight passed (40%) and twelve failed (60%)—these numbers are consistent with the overall failure rate of SFSU and 10% lower than the HED subset sample. GVAR failure rates are commensurate with those of the overall HED population with 15% of students failing HED 400 GVAR on their first attempt; however, the mean GVAR grade is notably higher than that of the HED GVAR sample earning an average of 3.32 (B), a median of 3.30 (B), and a mode of 4.0 (A). Thirty-seven percent (15) were self-reported multilingual students who speak another language other than English, although the extent to which students had experience or felt comfortable reading, speaking, and writing in English was not collected.

Statistical Analysis

Juniors vs. Seniors

When conducting this analysis among the HED subset, t-test results showed no difference ($p = 0.069$) among juniors and seniors. Juniors earned a mean grade of 2.26 with a standard deviation of 1.40 and seniors earned a mean grade of 2.76 with a standard deviation of 1.17. This comparison was not conducted among the longitudinal writing sample since all students at the time of data collection were seniors.

Native vs. Transfer Students

Results demonstrated no statistical difference ($p = 0.678$) in GVAR performance among native and transfer HED students. Native students earned a mean GVAR grade of 2.55 with a standard deviation of 1.26 and transfer students earned a mean GVAR grade of 2.67 with a standard deviation of 1.29.

JEPET pass vs. fail

Students who passed the JEPET did not do better in GVAR than those who failed as evidenced by a p value of 0.303. Students who passed the JEPET earned a mean GVAR grade of 3.3 with a standard deviation of 1.29 and those who failed the JEPET earned a mean GVAR grade of 2.81 with a standard deviation of 1.09.

Whites vs. Minorities

ANOVA results showed no significant difference ($p = 0.255$) in the mean GVAR grade among the four major ethnicities that are often used to predict academic achievement and college completion: Asian, Black or African American, Hispanic or Latino, and White. This suggests that departments may play an important role in addressing educational equity in terms of ethnicity. The longitudinal sample of HED students was too small to conduct any test of statistical significance.

Multiple Regression Analysis

Finally, a multiple regression analysis was conducted to examine the relationship between GVAR grade and the usual independent variables as candidate predictors. These candidate predictors were considered in the development of an optimal regression model with potential non-linear effects and interactions for GVAR grade. Specifically, the following predictors were tried: transfer status, high school GPA, cumulative college GPA, units earned, gender, and White. Test for interactions and multicollinearity showed no significant concerns.

The optimal model for the HED subset was: $GWAR\ Grade = -.433 + 1.049\ (cumulative\ college\ GPA)$

Table 1: HED Subset Sample Regression Results

Variable	B	SE
(Constant)	-.433	.716
Cumulative College GPA	1.049***	.245

Adjusted R²: .211; N = 60; F = 4.215

*p<0.05; **<0.01; ***p<0.001

As shown in table 1 above, the multiple regression results demonstrate that cumulative college GPA ($p < 0.001$) is the only significant predictor of GWAR grade among the HED subset with all others being moderated in the optimal modeling process. The regression results yielded an adjusted R² of .159 indicating that the model explains roughly 16% of the variance in GWAR grade. Of the HED dataset, GWAR grade is an increasing and linear function of the overall college GPA with no other variables as statistically significant. However, the residuals from the optimal model fail the normality test here indicating that the random errors have a different, more complex distribution. This does not undermine the estimation procedure, as it does not rely on the normality assumption; however the normality assumption would simply make the procedure more efficient.

Longitudinal Writing Study

Because writing development is difficult to accurately assess by student records alone, an analysis of student writing samples was conducted to examine changes in writing performance by conducting a longitudinal study of writing among a matched pair sample of 41 HED students. Samples of students writing in the HED 400 GWAR course (T1) and samples of their writing approximately three semesters later in their capstone course, HED 480 (T2), were compared. Two HED faculty who teach in the core sequenced courses attended a norming and pilot session before scoring student papers blindly.

A Wilcoxon signed-rank hypothesis test for non-parametric, paired samples was conducted to measure whether there was a statistically significant difference in writing scores from T1 to T2 among HED students. Since we would expect to see lower scores at T1 compared to T2, a one-tailed test was conducted and the null hypothesis was determined to test whether the mean score at T2 was greater than the mean score at T1. Test results indicated no difference in writing scores among these two groups as evidenced by $z = -1.35$ and $p = 0.0885$. The mean score among the T1 group was 27 points, and the mean score among the T2 group was 30 points.

Further analysis of these data revealed interesting patterns in writing development among certain groups of students when observing differences informally (see Table XX for Longitudinal Writing scores). The data demonstrate that among the eighteen students who scored between 28 and 45 points in the “very good” or “outstanding” range, only six students retained or made gains in scores. The remaining twelve students scored lower at T2, with an average loss of 16 points. These results suggest that students who came in as strong writers either left as equally strong writers or regressed at the time of graduating. Of these eighteen students, 8 were native SFSU students and 10 were transfer students, 9 of whom took the JEPET. Of those who took the JEPET, 56% failed it, and seven of the 18 students identified as multilingual students.

Table 2. Scores in “very good” and “outstanding” range

T1	T2	change	Soph ENG	GWAR Grade	College GPA	JEPET	Ethnicity	Language
29	24	-5	C+	A-	3.34		Latino	multi
32	15	-17	C	C+	2.23		Latino	multi
33	24	-9	B+	A	3.47	fail	White	
34	44	10	n/a	n/a	n/a		White	
34	18	-16	B	A-	3.76	fail	White	
36	25.5	-10.5	B	A-	3.08		API	
37	22	-15	A-	B+	3.35	fail	API	multi
39	36	-3	B	B+	3.61		White	
39	44	5	A-	A	3.68	fail	AA	
43	44	1	B-	A	3.63		White	
43	44	1	B	A	3.74	fail	API	
44	35	-9	A-	A	3.77	pass	API	
44	28	-16	CR	C	2.83	pass	Latino	
44	44	0	W, NC, A	B-	2.32	pass	API	multi
44	43	-1	A	A	3.69		Latino	
44	13	-31	B	B	3.05		AA	multi
44	44	0	B	B-	3.05		White	multi
45	16	-29	B	B+	3.28	pass	Latino	multi

When analyzing the T1 scoring patterns of eleven students who scored between 19 and 27 points in the “good” range, data demonstrate that seven students made gains from T1 to T2 with an average of 13.5 points. Although the remaining four students scored lower at T2, the point loss was not substantial, ranging from a loss of 1 to 9 points. Five students were native and six were transfer students. Three of the four students (75%) who took the JEPET failed it, and three of the 11 students identified as multilingual students.

Table 3. Scores in “good” range

T1	T2	change	Soph ENG	GWAR Grade	College GPA	JEPET	Ethnicity	Language
19	18	-1	A	B-	2.91	fail	Latino	multi
19	44	25	B	NC, C	2.56	fail	Latino	multi
19	25	6	B+	A-	3.71		White	
19	30	11	NC, NC, C	NC, A-	2.48	fail	Black	
19	31	12	C	B	2.44		API	multi
21	12	-9	B	D+, B-	2.59		Black	
21	24	3	B	A	3.29		API	
22	45	23	A	A-	3.56		White	
24	20	-4	C	B	2.71	pass	API	
24	39	15	A	A	3.9		White	
26	25	-1	A	B+	3.28		API	

Interestingly, of the 12 students who scored 18 points or lower in the “fair” or “poor” range at T1, 100% of them made substantial gains in their scores averaging 16 points with a range from a low of 6 points to a high of 35 points. Of these 12 students, 5 were native SFSU students and 7 were transfer students. Among the seven of the 12 students in this range who took the JEPET, 4 of them (57%) failed it, and five of the 12 students identified as multilingual students.

Table 4. Scores in “poor” and “fair” range

T1	T2	change	Soph ENG	GWAR Grade	College GPA	JEPET	Ethnicity	Language
9	14	5	C	B-	2.46	fail	API	multi
9	44	35	C+	B	3.06	fail	API	
10	20	10	B	B-	3.46		API	
11	17	6	A	A-	3.1		AA	
12	27.5	15.5	B	A-	3.11		API	multi
15	35	20	A-	B+	3	fail	API	
15	22	7	A	B+	2.82	pass	White	
16	24	8	A-	A	3.27	pass	White	
16	37	21	B	B-	3.12	fail	API	multi
17	28	11	C+	B	2.69	pass	Latino	multi
17	44	27	A	A	3.75		White	
18	45	27	B	B+	3.06		Latino	multi

An informal comparison of means shows native and transfer students performing similarly for the longitudinal writing sample of students. Table 5 below shows native and transfer students scoring almost identically at T1 with native students scoring 27.3 points and transfer students scoring 26.6 points. Mean scores at T2 were just as identical with native students scoring 30.2 points and transfer

students scoring 29.1 points. These results are commensurate with earlier results from the HED subset that showed no difference in GVAR grade among native and transfer students.

Table 5: Mean Longitudinal Writing Sample Score

	T1 mean score	T2 mean score
Transfer	26.6	29.1
Native	27.3	30.2
Passed JEPET	31.1	27.1
Failed JEPET	24.3	31.2
Monolingual	27	29.5
Multilingual	27	31.1

Student Interviews

In order to further explain the longitudinal study results, interviews were conducted with nine students to better understand their perceptions of and experiences writing in the discipline. Table 6 shows the demographic and academic profile for each student interviewed.

Table 6: Interview Participant Profiles

Name	Ethnicity	Multi-lingual	Nativity	JEPET	GVAR Grade	T1 Score	T2 Score	Score Change
Ashley	Asian	YES	Native	failed	B-	9	44	35
Theresa	White	NO	Transfer	N/A	A	17	44	27
Janis	Latino	YES	Native	passed	B	17	28	11
Anna	Latina	YES	Transfer	N/A	B+	18	45	27
Beatrice	African American	NO	Amber	failed	A- (repeated)	19	30	11
Constance	Latino	YES	Native	failed	C (repeated)	19	44	25
Mitchell	Latino	YES	Transfer	passed	C (repeated)	44	28	-16
Gwen	African American	NO	Transfer	N/A	B	44	13	-31
Yolanda	Latino	YES	Transfer	passed	B+	45	16	-29

All students interviewed reported GWAR as a valuable strategy to writing development in the HED major. Regardless of performance or progress, all students attributed their writing development to three major things:

1. Engagement in a long writing process that elevated thinking and organizing as critical stages of the writing process, including collaboration with the instructor and classmates.
2. Consistent, timely, and valuable feedback from both students and instructors.
3. Feeling passion about the content or topic of the writing assignment and interest in the major.

Students who scored high in the GWAR course then low in the capstone course were asked to explain reasons for the decline in their writing scores, students attributed their loss to different things without one unifying theme or reason. Among the three students interviewed, they all reported different reasons for the loss of points: personal, instructional, and phenomenal. One student who took the capstone course in the summer reported a lack of time, investment, and attention to her writing assignment because of extraordinary personal issues. Another attributed her poor performance on the capstone paper because the assignment instructions were “too broad” and “unclear,” so much so that she had difficulty “focusing on the assignment because [she] didn’t know what the instructor wanted from her.” Finally, the last student attributed his poor performance to “getting short,” a phenomenon he explained as disinvesting when one is close to exiting a term of service, such as retirees, military servicemen, or seniors in college who are about to graduate.

CONCLUSION

Students, regardless of race, class, gender, ethnicity, language, grade point average, and performance in previous writing courses or assessments can become strong, confident, and skilled writers in the context of GWAR and writing in the disciplines. The findings of this study illuminate the value of a writing policy such as GWAR, and validate the potential it has in addressing the achievement gap. Students are often labeled and categorized as either weak writers or strong writers, which not only limits the confidence they have in themselves, but it also limits their willingness and motivation to invest in their writing development. The labels we use to describe writers, may also limit instructors’ faith and belief in students that student writing can improve, particularly late in their academic career at the upper division level.

HED Writing Study Rubric

Faculty Reader Initials _____

Scoring Codes

5	4	3	2	1
Outstanding	Very Good	Good	Fair	Poor

The following criteria is written based on OUTSTANDING (Score of 5) criteria. Use the scoring codes above to determine the score for each paper.

Criteria	Score
Asserts an insightful position and provides multiple sound reasons to justify it.	
Provides analysis that reflects a thorough consideration of the complexity of the issue. Possibly refutes major counterarguments or considers contexts integral to the issue (e.g. ethical, cultural, social, political).	
Organizes responses in a logically cohesive way that makes it very easy to follow the writer's argument.	
Provides valid and comprehensive elaboration on each reason for the writer's position.	
Demonstrates accurate usage and strong understanding of health education terminology and public health concepts.	
Demonstrates outstanding control of grammatical conventions.	
Consistently writes well-constructed, complex sentences with varied structure and length.	
Displays adept use of vocabulary that is precise, advanced, and varied.	
Demonstrates outstanding control of APA format for citations.	

