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A Literature Review on the Heuristics of Learning Writing, and a Discussion of Academic Rigor and (robo) Grading

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***Abstract*—This monograph offers a Review of the Heuristics of Teaching and Learning Writing, as well as a Discussion of Academic Rigor, software Grading and Course Policies, grounded in attitudinal research and universal learning design theory. The author's 1980's student learning preferences research is made contemporary by applying the findings of his longitudinal study of writing growth personality type predictors to current literature and drawing conclusions about how best to teach *all* content to maximize learning. In writing instruction, the Omnibus Personality Inventory study proved that *attitude* and growth in narrative writing ability *correlate*. *Moderate social extroverts* were more likely to grow in narrative writing ability than those who scored highest on extroversion; those scoring higher on the *altruism* scale were more likely to make higher writing gains. The finding that improved writers indicated a *negative* relationship with *high* impulse expression means that those improved students were more emotionally controlled and serene. That the *gainers rated low on the anxiety scale* supports the finding that successful writing learners had fewer fears about learning, confirming educators' hunches. That student writing improvers also indicated high scores on the altruism scale is reassuring; it also supports the finding that good curriculums build on students' positive values as pedagogy in multiple ways, not *all* of them class content related. Research of the past three decades has advanced the thesis that, unless we pay pedagogical attention to the student as a whole person with individual learning propensities, we will miss not only the "course content" mark but also likewise miss the mark of teaching the values of citizenry. Both of these worthy aims require knowing as much as we can about how best our students learn.**

***Index Terms*—teaching, writing, learning, attitude, process, grading, academic rigor, heuristics, holism, personality**

I. Introduction

This researcher is most fond of the mission of the community college and its wonderful, sometimes underprepared or overwhelmed students. Many of them are among the most engaging, genuine, unpretentious learners on the face of the earth, ranging in age, as they do with advanced placement programs, dual enrollments, re-employment retraining and senior citizens programs, from 15 to 105 years of age and with potential deep experiential fundings and resources. As just-retired NYC public schools middle-school teacher and wonderful performance poet Taylor Mali asserts, teaching is the greatest job in the world, and teaching community college students is no exception (2012, ***What Teachers Make,*** Introduction, Putnam). As part of my revisited student learning styles research from three decades ago in CA, I set out recently to re-confirm that student *personality orientations* ***are*** *predictive of learning opportunities* in the *current* scholarship of learning. A recent researcher finds: "The community college is a distinctly American contribution to higher education. Nowhere else in the world can one find such commitment to access to higher education. This noble endeavor also brings with it significant challenges—one of which is maintaining academic rigor" (Robert J. Exley**: 2002.** Vice President of Academic Affairs at Iowa Western Community College. **"**ACADEMIC RIGOR**"** NIOSD Innovations Abstracts Volume XXIV, Number 16 2**).**

The present author initially conducted this heuristics research and wrote an account as my MA thesis in Dec. 1980, for the then brand-new, first in the nation, Master's Program in the Teaching of Writing (MATW) at Humboldt State University in Arcata, CA. In a way, it was a follow-up to his Reed College 1978 BA thesis in Philosophy, where he not only examined the literature of Dostoevsky's major novels, but abstracted his take on how humans learn and don't learn: the important role that heuristics and learning styles play in any educational pedagogy. Lately, I have gone back through this then original research of late as a continued call to action, to inspire, even now, in the early 21st century, an educational pedagogy that considers the learning styles and personalities of students as crucial elements that we must understand much more of if we are to teach as effectively as we educators across the disciplines can. Here, then, is a quick summary of the old story of the pre-FERPA personality testing of two school districts, one, Arcata High School District, as a control, the other, Hoopa High School District, the basis of the study, which took an entire population of Native Americans high school students and looked at which personality orientations and learning styles were predictive of growth over an academic year in narrative writing ability fostered by project-trained writing instructors compared with those who were not. While such research might not be replicable in the United States today, due to understandable

federal privacy protections and restrictions, your author urges readers to consider the implications of student personality, heuristics and learning styles on 21st century learning pedagogy and future research as our profession seeks to come truly of age. Likewise, we encourage a review of even more cutting-edge research and teaching writing theory that has ensued in the past 30 years as your scribe has grown comfortable and middle-aged putting into daily practice what he learned so long ago at Humboldt University under the tutelage of alumni Ray Caver's former teachers Richard Day and Thomas Gage, along with David Boxer, Karen Carleton, Les Squire and Jim Johnson.

To expect and maintain academic rigor, educators should learn all that they can learn within the limits of federal law, district guidelines and libertarian privacy concerns, about the students' personality and motivations, the backgrounds and wills of the people who grace their classrooms. To do so is to be on the right path toward understanding, on social science and bio-chemical models and every model in between, how our students learn and don't learn, how our charges gain or regress or stay static and why, how best to teach them what we now know that they know and don't know, how best they might make that knowledge their own by matching their lexus of deep learning, be it visual, auditory, tactile, kinetics, conceptual, practical, by modeling, memorization, song mnemonics, recitation aloud, or writing low stakes summarizes to communicate to others or to question… To match our students' personality strengths and opportunities with our pedagogy techniques remains the best way to foster learning, 30 years ago, today, probably forever, despite the recent MOOC platform idea that knowledge comes in a pre-packaged digital jugs to be poured into the global mugs of students about whom the course-designers can know virtually nothing due to universal design constraints and the fact that the student body can run to the size of a small city.

Your author considers the so-far-ahead-of-its-time student-centeredness work of James Moffett to be contemporary on these issues, despite its origins in the 1960's-1990's. He wishes, too, that James were still here to remind we educators of what really matters in our profession (James Moffett: 1983. JMC The James Moffett Consortium website). Likewise, on the slippery slope topic of robo-*grading* for both *placement essays* with such software as Write-Placer (C.) and potentially the *grading of class essays*, see the clear as rainwater recent "*The Washington Post* web articles in" the column "The Answer Sheet" by Valerie Strauss on why "computers can't do it" (2013. "Grading." Title. *The Washington Post*, web. 26 May) and why "grading schools on test-based performance" in Virginia is "counterproductive" and reveals only that "The course grading system proposed by legislators in Richmond does a very good job of only one thing: identifying which divisions in the commonwealth are the poorest" (2013 "Superintendent." *The Washington Post web:* June 7). Moffett and others brought us into the new century by arguing that, for active classroom learning to occur, educators must know who it is they are teaching and how best those people learn. Moffett, Strauss and others also convincingly stress the art of human teaching, the human educator and human learner interacting face-to-face or at minimum dialoguing interactively online, with attention paid to the sanctity of the material and the expectations that what is to be learned is worth learning, imparted with an individualized plan that holistically integrates all we know of how our students learn. Valerie Strauss concurs that all learning worthy of the name is personal; she, like most current researchers in a field that is mostly new and not yet codified, finds that the computer software graders are highly flawed at best, still years away from challenging "John Henry," the steel driving man of ballad song and human-vs.- mechanized-machine-of-the-future-fame.

When we use computer software to "grade" essays, essentially simple binary counting programs, measuring exactly but crudely such things as syllables per word, words per sentence, sentences per paragraph, average sentence length, paragraphs per essay, we allow students or devious researchers to "game" the programs by using polysyllabic sensical or non-sensical and long, cumulative sentences that may or may not make sense yet yield high, composition one worthy scores. In permitting this, we send the undeniable message that we ***do not care enough*** about our students to actually ***read*** what they write. The teachers who feel that robo-grading software will free them up from massive course essay grading in order to teach more course "content" fool themselves and beg the obvious answer to the question of whether paper grading is "teaching." To give the human touch up to robo-grading of either placement essays or classroom written rhetoric is to give up on ***real*** teaching, no matter what slick rationales and political pressures and expediencies masquerade that sad fact. The ultimate educational bean- counter mentality irony is that most of the per essay/"unit" prices of robo-grading programs slightly exceed the human pay point price, which is three cents per professionally read and deliberately considered "blue" booklet at my institution. Thinking positively from now on, we should pay attention to what we already know works in the educational nexus, using the best means we know to foster deep learning in any field.

II. Methodology

In this productive vein, this researcher's long-ago Omnibus Personality Inventory study proved that attitude and growth in narrative writing ability correlate. ***Moderate social extroverts*** were more likely to grow in narrative writing ability than those who scored highest on extroversion; those scoring higher on the ***altruism*** scale were not surprisingly more likely to make higher writing gains. The finding that improved writers indicated a ***negative*** relationship with ***high*** impulse expression means that those most improved students were predisposed to be more emotionally controlled and serene, ready to learn. That the ***gainers rated low on the*** OPI ***anxiety scale*** supports the important finding that successful writing learners had fewer fears about learning and school, fewer fears in general, confirming educators' common sense notions about learning as well as other research. That those student writing improvers also indicated

high scores on the altruism scale is not only reassuring culturally, but it also supports the finding that good curriculums build on students' positive values and citizenry as educationally-sound pedagogy in multiple, important, ways, not ***all*** of them class content related. Interestingly, those students who scored high in ***thinking introversion*** (internalization of thought) were more likely to ***regress*** in ***narrative writing*** over a year of instruction, perhaps due to shyness and social anxiety, although these individuals might fare better with expository writing pre and post samples. As mentioned, those whose writing regressed showed a positive relationship with the thinking introversion category on the OPI, but they also had a ***negative interest in*** Complexity, and they had a low correlation with social introversion. These results suggest that rethinking of the role of student personality and motivation in learning is necessary if teachers are to help students improve their writing. Your researcher ventures to say that the research of the past three decades has further advanced the thesis that, unless we pay pedagogical attention to the student as a whole person with individual learning propensities and backgrounds, we will miss not only the "course content" mark but also likewise miss the important and ultimately larger mark of teaching the values of citizenry. Both of these worthy aims require knowing as much as we can about how best our students learn.

Others, wiser than your scribe here, before and since, have shown as I likewise found that student attitude and personality are key components in learning: that to ignore the huge role that classroom ***anxiety,*** for instance, plays in individual learning and the subject content acquisition gains that occur when educators can assuage student anxieties about writing, math, science, art, or physical education, whatever the feared topic might be. To ignore or not help alleviate that state of learning angst, often through building a sense of a safe classroom community of peer learners and with the teacher as separate but equal learner, is to put aside a human educational tool that we know works. That w-ould not be wise pedagogy. Wise pedagogy is what we seek here, what we all want, all of us, is it not? We likewise all want what is best for our students as whole persons in and beyond the classroom, as citizens. These heuristic factors ought to be considered in the "universal learning design," to use a 21st century term, in the setting of course policies, such as absence and lateness policies, even the multiple means we provide our class materials in to accommodate not only those with documented disabilities but to benefit those students who have varied learning preferences. This researcher ventured to go out on a limb here and say that heuristic factors and the overcoming of individual educational obstacles ought to enter the professoriate's calculus of grading, that growth, genuine effort and personal epiphanies ought to matter not only for students between final grades as a "rounder" but as grading rubric criteria themselves.

Here is what Vice President Robert Exley says about the student as a whole person and our educational mission: "In November 1999, The Center for Academic Integrity distributed copies of 'The Fundamental Values of Academic Integrity' (www.academicintegrity.org). This powerful treatise identifies the core values necessary for academic integrity and at its outset identifies the premise for why academic integrity matters: 'Academic integrity is essential to the success of our mission as educators. It also provides a foundation for responsible conduct in our students' lives after graduation (p. 2). We must consider the moral definition of academic integrity as we deal with the issues of academic rigor" (Exley: 2010. **"**ACADEMIC RIGOR IN THE OPENDOOR COLLEGE**"** 2-3). It seems clear that we educators are helping to build more than text takers or in-class writing-as- a-means-of- testing knowledge-regurgitating automat ants, far more in fact. We play a vital role in building citizens, neighbors, community members, in short, in ensuring our own one-equals-all futures as planetary, fully-human brothers and sisters. The results of this researcher's long-ago study of student personality and attitude orientation and their influence on growth in narrative writing ability, and more-federally privacy law restricted research done since do more than suggest this attitude toward the whole learner in all education fields: those results and most of the few studies since demand this attitude, not a business model of student outcomes product and multiple choice, test-based education. The U.S. federal government abandoned the business model in its Program Planning Budget System (PPBS) ***for all departments but the Department of Education*** not long after President Johnson's "System 60's" model influenced by Robert MacNamara's Defense Department economic model for war, which emphasized Vietnam jungles' body counts in a cost/benefit analysis (Rivlin: 1971). Educators have long known that cumulative grades are the best indicator of student success, grades given holistically by teachers, not tied to objective testing, which works best only in the sciences and ignores real but intangible-on-multiple-choice-tests growth in the Humanities and in other fields (Moffett: 1992). 19th and early 20th Century American school heads were called "education philosophers" and principals called "***the principal teacher,"*** who was not solely and administrator but ***taught*** as well (Farrell: 2013). The below results of this student heuristics and writing learning researcher suggest that we have lost our way by the continued and unfortunate in the Humanities emphasis on the business model of education which does not by design assess the ***means and techniques and learning preferences of real learning.***

Writing Diagnostic Results

In the sample-wide survey with 57 sets of complete data, Hoopa High students showed a mean improvement of .72 on the holistic scale. For the sample, the standard deviation was 1.76, indicating that those students who improved and those who regressed did so ***substantially***. In all, 30 students improved over the year, 17 showed no growth, and 10 regressed. Since each paper received 2 combined scores from the 6 point holistic criteria, a total possible gain from 2 points to 12 was possible for each student. Hence, the. 72 improvement figure indicates a 7% growth rate for the sample. This is significant, especially considering the extremely low growth rate in the Humboldt State University study cited earlier (growth of 2% university wide). Parenthetically, a three-year research project at Wisconsin State University in-

dicated that as many students scored lower on an identical "pre" and "post" A.C.T. English Usage Test after taking Freshman composition as scored higher (Eulert: 1979). Clearly, any growth suggests successful instruction in writing and student learning: here ***three times*** as many students improved as regressed. (See Table 1 for a breakdown of the writing diagnostic results).

Of the 30 students whose scores improved, there was a mean gain of 2.0 on the scale with a standard deviation of 1.21. It seems that those who improved over the year made great strides: these students showed a phenomenal ***20% growth*** in narrative writing ability.

Of the 17 students who showed no growth, there was, of course, no improvement, though this does not mean that these particular subjects were poor writers. Some of these students scored quite high on the "pre" test but earned the same score on the -post" sample. This statistic means simply what it says: there was no growth in writing ability over a year of instruction.

Of the 10 students whose scores dropped, there was a mean regression of -1.90 on the holistic scale with a standard deviation of .83. This supports the finding that those who regressed, like those who improved, changed ***substantially.*** These students, though few in number, regressed in writing ability at a 19% rate.

III. Growth in Writing and 0.P.I. Scale Correlation: Results and Analysis

Running the first deck of cards containing the data for the whole sample revealed low correlations among all of the scales on the 0.P.I. and improvement in writing[1]. This researcher had planned to run separate decks for each of the three subgroups in the sample: those who improved on the gain score, those who stayed the same, and those who regressed. In this way, I could find differences in the personality orientations of each of three groups and determine how those differences may have effected growth in writing.

This technique did yield stronger correlations, both positive and negative.

The "Intellectual Disposition Category" and its six scales correlated weakly with gain scores on the whole sample. The subgroup of 30 improvers showed weak and even negative correlations with "intellectual disposition." The subgroup of 17 students with no gain scores showed, of course, no correlations. Surprisingly, it was the group of 10 writing regressors who displayed higher correlations with the scales composing the "Intellectual Disposition Category." (Please see Table 2 for whole sample and subgroup scale correlation results).

The Thinking Introversion (TI) scale showed a weak .18 correlation with writing gain scores from the whole sample. This is not significant. Likewise, the isolated group of 30 improvers had only a .18 correlation with TI. Contrary to my expectations, ***the writing regressors*** *had a* ***.37 correlation with Thinking Introversion***. This is contrary to Heist and Youngs' finding in their above mentioned study of graduate students where TI correlated at over .30 (r of .24 to be significant at the .05 level) with a faculty rating of written performance. This also seems to conflict with Trent and Medskers' finding that students who persist in college are more receptive to growth in intellectual disposition. (Trent and Medsker: 1967, Beyond High School, CRDHE, University of California Berkeley, p. 151).

Why did the regressors tend to have a higher personal interest in a broad range of ideas? Perhaps the answer to this question has to do with the type of writing sample used in the study: *perhaps students with higher TI scale scores are able to write better in the expository mode than in narrative.* Perhaps Thinking Introversion tends not to manifest itself in narrative writing in a like manner to Heist and Young's finding that high intellectual dispositions do not reflect in college grades.

The Theoretical Orientation (TO) scale correlated even less with improvement in writing for all of the study groups. In the whole sample, there was a .08 correlation: in the subgroup of 30 improvers there was a .04 relationship, and among the 10 regressors the correlation was a negative one, -.07. Though this negative correlation reflects my intuition that students with *theoretical interests write better*, the insignificant positive correlation among the improvers offers little proof of that hunch.

One disturbing finding of the Wisconsin study cited previously was that most of the students scored extremely low on the "aesthetic" scale of the Allport-Vernon-Lindzey (1931)"Study of Values" profile, their instrument used to assess personality. Since Heist and Young had demonstrated that their Estheticism (ES) scale correlated at .61 or better (r of .20 to be significant at the .01 level) with the "aesthetic" scale on the "Study of Values," I wanted to determine whether Hoopa's students would also do poorly on this measure of diverse interests in all artistic matters, including literature and drama. This hypothesis was borne out: the mean score on the ES scale of the 0.P.I. was a mere 8.79 out of 24 items. It seems that many young people are not all that concerned with matters of esthetics. I mention this only because the Wisconsin project found little relation between success in the composition course and importance placed on esthetic values. The study planner has refrained from examining the mean scores for the sample on each of the separate scales, except as they relate to writing ability. However, a very interesting personality profile of the young student would emerge from this sample should someone choose to do so. Perhaps someday, in a time when Cyber computers are replaced with those much faster and smaller, another researcher or an older version on me will want to take up this calling...

[1] Kathy Keech, Director of Writing Assessments for CRDHE at U.C. Berkeley, has determined that correlations from .1-.25 are "low" in education research, while correlations from .25-.59 are moderately "strong," and those above .6 are very "high."

Corresponding to the Wisconsin findings, my sample showed *no relationship* between the writing gain score and the 0.P.I.'s Estheticism scale. For the whole sample there was a slight negative correlation of -.01: for the writing improvers there was a -.04 relationship, and for the regressors a .15 correlation. Esthetic interests seem to have nothing to do with improvement in narrative writing.

Correlations with the Complexity (CO) scale are again low, although there was a *surprise*. The whole sample had a .04 relationship with the writing gain score and the subgroup of 30 improvers showed a negative correlation of -.17, neither of which are stastically significant. The writing regressors, however, had a stronger negative correlation of -.28, which suggests that those students who display a weaker interest in novel and sometimes complex ideas also tended to be weak in their ability to write. Strangely, Trent and Medsker found that many college dropouts scored high in the CO scale. They *say:* "It may be too, that many of the withdrawals, higher than the persisters to start with in complexity of outlook, intellectual curiosity, and tolerance for ambiguity as measured by the Complexity scale, sought more from their college experience than did many persisters" (Trent and Medsker: 1967, p. 151). Is there some fault in college curriculums that keeps these students from persisting? *More specifically, is there something in high schools' composition programs that lets students with little interest in complexity become "writing dropouts," less able to write a good narrative piece at the end of the year?* The answer is a mystery.

Although the author had anticipated a strong relationship between the Autonomy (AU) scale and the writing gain score, the numbers just weren't there. In fact, there was another surprise. The whole sample showed a correlation of .16 and the improvers had a -.10 relationship, ***but the writing regressors showed a .33 correlation between AU and decline in writing ability.*** It looks as though those students who display more independent critical thinking, not necessarily subject to traditional norms, are likely to ***decrease*** in narrative writing ability. This researcher was genuinely puzzled by this finding. This researcher considers a sense of autonomy a highly desirable trait, one that would probably help one's writing ability. Clearly, we need to know more about this causal relationship. Looking into its heuristic objectively has already yielded a new arena of research for the future.

Religious Orientation (R0), the last scale in the "Intellectual Dispostion Category," showed positive correlations with all of the groups in my study. In the whole sample, there was an insignificant .08 relationship, and, among the writing improvers, an even smaller .01 one**.** *Among the writing regressors there was* ***a .34 correlation***: This again tells us something unusual but definitive in the data. The RO scale measures a tolerance for religious flexibility: high scorers in RO are often skeptical of conventional religious beliefs, especially those that are orthodox or fundamentalistic. Hence, our writing *regressors* were *more tolerant and liberal in their religious thinking* than those who *improved*. The evidence seems to support the hypothesis that students of a more traditional religious orientation improve more readily in narrative writing. Again, we need more research in this area. It might be instructive to track, should the sensitive information be volunteered, just which students at Hoopa attend the small Christian church on the reservation. In interview with the minister there, post hoc, revealed that the church has irregular hours and is poorly attended, many Hoopa adults and youth being subsumed with social struggles, alcoholism, high unemployment, subsistence salmon and steelhead fishing via gill-netting on the Klamath and illegal activity such as marijuana cultivation on a larger scale on reservation-area farms.

So far, considering just the scales in the "Intellectual Disposition Category," the findings read like a "Who's Who in declining writing ability." Several factors seem to be predictive to some degree in accounting for regression in narrative writing ability: none seem to be predictive of improvement. What factors do have to do with successful writing improvement? God knows we all have our intuitions, and anecdotal theories abound, but our newborn educational science affords precious little empirical data causative of writing growth. The best empirical indications could find came from the Wisconsin study.

They found five significant factors that are predictive of success in the composition course, and hopefully, by extension, in writing. First, the number of semesters of high school English, more than the particular curricula, had an effect on success in the college composition class. Second, the student's opinion of his high school instruction matters: students who were poorly prepared and who had negative attitudes toward their teachers tended to fail; well-prepared students tended to rate their high school teachers more realistically and succeeded more often. Third, the student's score on the "economic" scale of the **Study of Values** was predictive: the higher the concern for pragmatic matters of money, the lower a student's performance in composition tended to be. (We will soon see a similar pattern with the related 0.P.I. scales). Fourth, the student's score on the "social" scale of the Study of Values was predictive. (We could reasonably expect the 0.P.I. to verify this). Last, the student's change in ***attitude*** toward English from pre-test to post-test was *important*: a good attitude upon entering college had no relationship to later success; **change** was the necessary factor. Students with a beginning negative attitude were as likely to do well as those with beginning good attitudes if neither changed, and students with poor attitudes who decided that they liked English more after the course*actually improved greatly. (Eulert) These, then, are items of note. We shall soon see if any of the scales in the "Social Emotional Disposition Category" co-oberate these findings. Before doing even this, we should verify what items *do not* seem to affect student learning in the English class.

Eulert's report on the Wisconsin project indicates several factors that do not effect student performance greatly, some of these are confirmed by the correlations we have reviewed. As mentioned, beginning student attitude toward the course makes no Difference, and likewise parental attitude toward college success has little effect on actual student

success. Neither the student's own rating of his effort to excel, nor his attitude toward college in general matters much. Also, the numbers of papers written and the size of the high school he/she came from have no import. Significantly, the importance a student placed on esthetic values had little bearing on success in the college composition course. This finding is confirmed by the lack of a significant correlation with student scores at Hoopa High between our writing gain scores and the Estheticism scale of the O.P.I. Likewise, the importance a student places on theoretical values had no relationship to success in the composition course at Wisconsin State University. Again, this fact seems to concur with the lack of a significant correlation between the Theoretical Orientation scale on the O.P.I. and the narrative writing gain scores. Further, the Wisconsin study showed that the students' orientation toward political and religious values had little effect on success. While my study has yet to assess the importance of political valves, the above finding confirms the conclusion that religious values do not correlate directly with growth in English as evidenced by the O.P.I. Finally, the student's quartile rating on the A.C.T. Usage Test and the amount of emphasis placed on grammar by the college English instructor have little or no effect on success in the course. Another nail has been driven into the coffin of teaching and assessing grammar by itself.

Impulse Expression has little to do with written Self-expression in narrative writing, at least as measured by the 0.P.I. Perhaps even narrative writing is too deliberate an act to assuage uninhibited spontaneous impulses. Also, there was no relationship between high impulse expression and regression in narrative writing, although Heist and Young have demonstrated an inverse relationship between IE and college grades.

The Personal Integration (PI) scale correlated negatively at -.10 with writing gain scores for the whole sample and at a positive .l0 with the writing improvers. This somewhat insignificant correlation tends to back up an intuitive feeling that students with high personal integration would tend to write better. The evidence is inconclusive, however. The writing regressors also displayed a .09 relationship between Personal integration and the writing gain score. I might add that there was a large standard deviation of 10 points out of 55 on the PI scale among Hoopa students, which indicates *variety* in the students' personal integration.

The mean Anxiety Level scale score at Hoopa was fairly high at 11.9 out of a possible 20 items. More specifically, there was a- negative -.02 correlation between anxiety, level and the writing component for the whole sample. Surprisingly, there was a .23 correlation between the anxiety level scale scores and the writing gain scores of the writing improvers. It is important to note here that the Anxiety Level scale is an inverse one: that is, *the more a student admits to feelings of* anxiety when answering the 0.P.I.' questions, the less anxious the student AL in actuality. Hence, a high Anxiety Level (AL) score indicates a lack of anxiety in the student. Therefore, our writing improvers tended to be less anxious and exhibit less symptoms of anxiety than those in the rest of the sample. The writing regressors showed a negative -.12 relationship with AL. Can it be that the lack of anxiety is a factor in growth in writing ability? In other words, is anxiety an important factor inhibiting student learning? My findings tentatively indicate that it is. The writing class that reduces anxiety among students appears to be the most successful one. I should note that many comprehensive student surveys, including Daly and Millers' work, have shown composition courses to be the most feared classes in college. They found apprehension to "negatively affect" communication. (Anthony Petroskey: 1976, summary report on John A. Daly and Michael D. Millers' findings in "Research Roundup," English Journal, Dec., p. 74).

The "Miscellaneous Category" containing the last four scales of the 0.P.I. shows us probably the clearest picture of the relationship between personality factors and growth in writing. When examining the Altruism (AY) scale of the Miscellaneous Category, it is important to note that Heist and Young found a significant negative correlation of - .48 (r of .20 required, to be significant at .01 level) between the economic scale on the Study of Values and AM. This indicates a moderately strong inverse relationship between the economic scale which had been found to be predictive of success in the college course and the 0.P.I.'s Altruism scale. Also, the social scale in the ***Study of Values*** was shown by Heist and Young to correlate at .46 with Altruism. Keeping this in mind, there was a .20 correlation between Altruism and the whole sample, which indicates a definite but low relationship between high Altruism scale scores and growth in writing. Also, there was a .21 relationship between the improvers and Altruism, a slightly stronger figure that weakly supports the intuition that students with a concern for the welfare of their fellow men also tend to be more receptive to growth in writing ability. In line with this interpretation, there was a weaker .14 relationship between the writing regressors and the Altruism scale. Given the fact that the economic scale from the Study of Values is inversely related to altruism, and given the fact that a high economic scale score was shown to correlate negatively with success in the composition course in the Wisconsin study, it should be stressed that one could expect altruism to correlate positively with success on the writing diagnostic score. This did occur, supporting the notion, although the positive relationship between Altruism and the writing gain scores was not as high as one might expect. Likewise, the Wisconsin study determined that the social scale in the ***Study of Values indicated that the students with a concern for people and issues outside themselves also tended to do well in the composition course.*** Given the above mentioned relationship between this social scale and Altruism, we could expect the same sort of relationship to occur with growth in writing. Again, this did happen although the correlation *is* not highly conclusive.

The Practical Outlook (PO) scale, a measure of utilitarian or practical orientations, correlated strongly in Heist and Youngs' findings with the above-mentioned economic scale from the ***Study of Values***. The correlation between them was a .62 (r of .20 required, to be significant at the .01 level). Also, there was a negative correlation between Practical Outlook on the 0.P.I. and the esthetic scale from the ***Study of Values***. For my whole sample, there was .10 correlation

between PO and growth in writing, and among the writing improvers there was a .08 correlation. Among the writing regressors there was a negative -.14 correlation between PO and the writing component. The ***Study of Values*** economic scale prepared us to expect that high economic scores or large concerns with practical matters of money tend to correlate **inversely** with success in the composition course. Thus, we might expect our similar Practical Outlook scale also to correlate inversely with success in the writing gain score. This was not confirmed as our writing improvers had a small positive correlation with Practical Outlook. This researcher would conjecture, however, that writing in another mode, *exposition for* instance, would be inversely related with high practical orientation scores. I would also expect a positive correlation between such factors as theoretic orientation and thinking introversion, and growth on an expository writing scale. However, this remains to be researched in our 21st century.

As might be expected, there were insignificant correlations between the Masculinity-Femininity scale scores and the Response Bias scale scores, and growth in writing. The masculinity-Fem-ininity scale showed a negative relationship with growth in writing for the whole sample. I was never interested in pursuing the relationship between this scale score and writing. Also, the Response Bias showed a negative -.02 relationship with growth in writing for the sample. Obviously, these scales from the 0.P.I. are designed to be helpful when looking at other factors. The response bias in particular gives us a measure of the test taker's attitude and would not be expected to correlate strongly with growth in writing. I should note, however, that there was a .23 correlation between the Response Bias scale and the writing improvers. This indicates that those students who grew over the year on the writing diagnostic scale also had higher response biases when taking the 0.P.I. In other words, one shouldn't take oneself too seriously. It appears the students who grew over the course of the year in writing ability also tended to dislike participating in standardized testing situations more than those who stayed the same or regressed,

This project has generated a wealth of data that has not yet-been examined. I have not examined the individual scale scores for the entire high school and what they tell us by themselves about the Hoopa School District student profile. Moreover, there is also the question of other variables that could be correlated with the 0.P.I. scale scores. Perhaps improvement is not necessarily the best variable to concentrate on when correlating writing ability with each of the 0.P.I. scale scores. Perhaps it would be even more beneficial to look at where the students scored on the holistic-scale during both portions of the writing sample and to search for the corresponding correlations with the scale scores. Perhaps a mean score indicating the student's place on the holistic writing scale during both the "pre" and "post" test would be a more beneficial variable to test against personality factors. This then would tell us how high scoring writers, medium scoring writers, and low scoring writers correlate with the various personality orientations. Perhaps this would be a useful project and natural next examination using the wealth of untapped and likely soon to be barred by pending federal student privacy regulations data that I already have on hand and have extracted voluntarily with the cooperation of a whole school district. This researcher likewise was lucky to have the district permission of Arcata High School, predominately white, to preform norming testing the year before the Hoopa research project on the reservation much testing of other types, mostly social services or I.Q. testing related, must have seemed almost punitive in the past. Does one hear any takers to mine further diamonds of early inquiry and findings from the seeming dross but really invaluable wealth of the extensive data collected by this researcher not then yet bound by restrictive federal protections?

IV. Discussions and Conclusions

Before summarizing what this researcher learned about attitude and learning and began to put into practice 30 years ago at Humboldt State University, let him reinforce the importance of what we educators do when we use all the information at hand, including frequent face-to-face individual conferencing with our students and outright talking with them, one-to-one and in class publically, about how we can best get through to them the course material, to give them every opportunity at semester-long mastery of the material and its integration into their ***lives.*** Robert Lemanson, in the preface to his fine book on pedagogy and our mission as teachers, says succinctly that we should work with "what we have and what we know, playing the hand we are dealt," not attempting to "undo past education" but, instead, starting "where we and they are." Lemanson argues convincingly of what to do with underprepared students that: "Most of us learn, sometimes slowly, sometimes painfully that the people we interact with-spouses, lovers, offspring, colleagues' supervisors-are unique individuals with their own of characteristics, predilections, and personality traits. So it is that a student might be brilliant and irresponsible or illiterate and charming. The student is a whole person. We do our best work when we provide whatever help is most needed. This implies some degree of personal knowledge of the individuals we teach, and an appreciation of young people in general. While the average age of students entering college is generally increasing, most first-year students are still quite young adults-almost adults. They are our lumpy raw material. To be effective as teachers we must deal with first-year students in all aspects of their person, their strengths, their faults and their shortcomings. We might have to do more for students now than we would have in the past, but this is the hand that we have been dealt" (Leamnson: 2010. Preface ***Thinking About Teaching and Learning***).

This emphasis on the student as a whole person, part of a community of learners, is refreshing, and it harkens back to an earlier era when respect for the individual and his or her role in their own learning ***process,*** assisted by educators who care about ***both*** the material and their classroom citizens and who take the time and make the effort to learn how their students learn best. Researcher Leamnson is no doubt also a fine teacher. Consider this ***déjà vu*** all over again position:

I don't believe that there is much about teaching that can be called new. Certainly the appearance of computers, electronic classrooms, distance learning and the like are all new technologies and many teachers will have to learn some new tricks to take advantage of the technology. But I consider technologies and techniclues in general to be more peripheral than central to the business of teaching. It is the "core of education," to use Elmore's (1966) phrase, that remains unchanged. This core is what it always has been, a ***personal interaction between teacher and student, no matter the technology.*** When students and their learning problems become central, technologies, methods, and techniques, both new and old, will be used with reason. New teaching innovations are largely sound practices dusted off and updated. For example, cooperative learning has been practiced with great benefit for many years, but it is now getting wide exposure and more formal organization. Active learning has always been, for most teachers, the only kind there was, but now it is becoming more formalized and consciously practiced (Leamnson: 2010. Preface ***Thinking About Teaching and Learning***).

Now we are ready to go back to the future, to the past that sometimes informs us the best. We are ready, as educators, to consider the student as a whole person infused with experiences, learning preferences, individual motivations and demons, to consider ***all*** of this in everything pedagogical from our mapping of our teaching strategy, to our multiple means of class content delivery, to re-examining our rigorous course policies and grading standards to maximize learning in as many of our student charges as is humanly possible, all the while emphasizing the classroom positivity and reward that we ***know*** works better than punishment in long-term learning in both face-to-face and virtual classroom communities.

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James Andrew Freeman, born in Montreal, Canada, the son of a military father then in Medical School at McGill University and a teacher mother, James Andrew Freeman was born March 27th, 1956. He earned a Master of Arts in English with a teaching writing concentration (MATW) from Humboldt State University, Arcata, CA, USA, in Dec., 1980 with High Honors, completed the literature program concentration in June, 1981; earned a Bachelor of Arts in philosophy with a literature minor at Reed College in Portland, OR in June, 1978, Phi Beta Kappa; and an Associate of Arts degree in English journalism at Shasta College, Redding, CA in June 1976 with High Honors.

He has taught creative writing, composition and literature at Bucks County Community College as Professor of Language and Literature in Newtown, PA since 1982; taught etymology, debate forensics, Greek mythology, brain physiology, model rocketry, creative writing and SAT verbal preparation at the George School/Thomas Edison University Summer Academic Residential Camps in Newtown, PA from 1987-1998; taught English at Southern Oregon University in Ashland, OR from 1981-82 as Visiting Assistant Professor and Writing Center Director; at Humboldt State University as a Lecturer in English and Philosophy from 1978-1981; taught writing, photography and wilderness experience for the Federal Upward Bound High School Summer Program in Arcata, CA in 1978-1981; and tutored writing at Shasta College from 1974-1976. He is widely published with 17 books and numerous articles, including ***Irish Wake: In Loving Memory of Us All*** (Baltimore, MD: PublishAmerica, 2011); ***Ishi's Journey from the Center to the Edge of the World*** (Happy Camp, CA: Naturegraph, 2006, 1992); and ***Never the Same River Twice*** (with Phyllis Carol Agins, Winter Park, FL: Charles B. McFadden, 1995). Attitude, personality orientation, learning preferences, universal design and growth in writing ability heuristics research are his pedagogical passions, in addition to growing an active creative writing career. He presents frequently at teachers' conferences, such as at the Asilomar, CA Teachers of English annual seminar, the Philadelphia Writing Conference, and the Two Year College Northeast Region annual conferences.

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