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A PROGRAM EVALUATION OF E.P.A.S. IN MONTGOMERY COUNTY, TN

Lisa M. Casey

A Program Evaluation of E.P.A.S. in Montgomery County, TN

A Thesis

Presented to

The College of Graduate Studies

Austin Peay State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts In Psychology, Industrial/Organizational Concentration

Lisa M. Casey

May, 2012

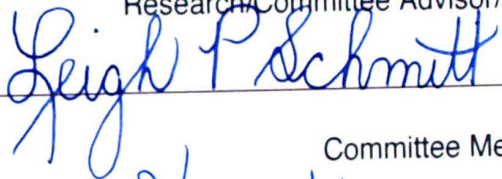
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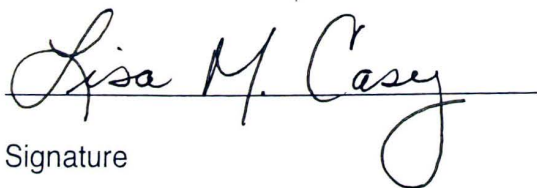


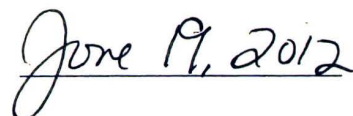
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ABSTRACT

LISA M. CASEY. A Program Evaluation of E.P.A.S. in Montgomery County TN
(Under the direction of Dr. Uma J. Iyer)

This study examined the Clarksville-Montgomery County School System (CMCSS) data on the first set of students to complete the Educational Planning and Assessment System (EPAS) series of tests designed to track and predict college readiness. The local scores were compared to the national benchmark scores as collected by the ACT organization to determine how CMCSS students were performing. The total sample size was 1660 students, however only 27 students remained who had taken all three assessments comprising the EPAS system. The average scores of these 27 students were significantly higher than the national average. There was a substantial correlation between the three assessments with the PLAN scores having the most weight in predicting the ACT scores. However, the larger sample of solely the cases that had PLAN and ACT scores revealed means that were much more aligned with the national benchmarks. The factor(s) that influenced the significantly higher scores of the 27 students who had taken all three assessments and remained in the CMCSS was not determined based on the data available to the researcher for this project.

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A Program Evaluation of E.P.A.S. in Montgomery County, TN

Few topics can be more passionately debated than student performance and school accountability in education today. With this in mind, this researcher examined the student performance of Clarksville-Montgomery County School System's (CMCSS) most recent administration of the ACT assessment. This study was, more thoroughly, a program evaluation of the Educational Planning and Assessment System (EPAS) put in place by the CMCSS to track student progress and performance using an assessment system developed by the ACT organization. Data was collected from the first cohort in the CMCSS to complete all 3 assessments of the (EPAS)program, and compared to data collected by the ACT organization. The purpose of this comparison was twofold, first to give the primary researcher valuable experience in program evaluation and performance assessment and second to provide CMCSS with analyzed results on how their students compared to national standards of achievement. Furthermore, with the ability to compare CMCSS students against national benchmarks the school district educators could then evaluate the strengths and weaknesses of a standards-based curriculum. Before addressing the results of the study some background will be provided, first, the frenzy and urgency of accurately assessing student performance and second, how this relates to college readiness.

Background

The accountability/reform movement can be linked back to the landmark report issued by the Education Commission on Excellence in Education entitled *A Nation At Risk* (ANR, 1983). This report, eighteen months in the making, was a jarring expose of the quality of our nation's high school graduates and our national education system. It boldly stated that, "if the education system that exists today had been imposed on us as a nation we would have considered it an act of war"(ANR1983). Because of such an ominous assessment of our national standing state education departments across the nation began to adopt the reports suggestions, many within two years of it's publication (Sunderman, 2009). ANR made 38 recommendations across 5 areas of concern (ANR, 1983). While many educators accepted the report findings, some disagreed with the report's conclusions. For example, two respected and long time educators David Berliner and Bruce Biddle in their book, *A Manufactured Crisis*, written 12 years after ANR was published made some astonishing claims. They maintained that US student test scores were not "slipping" and second that ANR was simply a right-wing policy fabrication to divert attention away from other activities of the then current Reagan administration. Their explanation of the slipping US scores could be more accurately attributed to unequal funding of education (Berliner & Biddle 1995). Lawrence Stedman, an education professor at Binghamton University, in

his review of *Manufactured Crisis* refuted what Berliner and Biddle claimed. Stedman contended that Berliner and Biddle's claims were based on old research, and that that they used merely one study to support their claim that US test scores were not in fact "slipping". (Stedman, 1996). Just prior to ANR publication mandatory competency testing had entered the educational lexicon (Glasnapp & Poggio, 1991). Moreover, there was wide controversy over the value of competency testing, (Black & Duhon, 2003, Glasnapp & Poggio 1991). The controversy spotlighted numerous aspects of competency testing," identifying the minimums, legal issues, setting standards for performance, impact on curriculum, instruction, teachers, and students. (Glasnapp & Poggio, 1991) While the debate raged internally in the US, other industrialized nations such as Singapore and England were using the similar assessments aimed at accurately identifying college ready students (Gregory & Clarke, 2003). Nevertheless, objectively testing students based on agreed upon standards seemed to be the best method of accurately assessing a student who had completed the required course work set out by his/her educational institution. Initially, states voluntarily tried to improve their curriculum standards and quality of graduates. Furthermore, many states and local districts attempted to prepare their own assessment instruments (Sunderman, 2009). However, while these assessments could accurately assess the local standards they left much to be desired in terms of

national standards which could compare all students. These efforts produced a very inconsistent quality of graduate across the US. In 2002, nineteen years after A Nation At Risk was published President Bush signed into law The No Child Left Behind Act (NCLB). No Child Left Behind picked up where A Nation At Risk left off. ANR awaked the nation to our educational deficit while NCLB offered a solution that was objective academically, demographically and financially. Mandatory competency testing had now come of age. States had rolled up their sleeves and created curriculum standards that were measurable and private testing companies had emerged with assessments designed to test those standards. The era of accountability was ushered in with the NCLB legislation. Again however, there were critics of this latest attempt to reform the educational system. While the debate over mandatory competency testing continued for the most part it was accepted. Still some educators and policy analysts believed politics was being played with our educational system. David Hursh, a professor at University of Rochester, was a strong opponent to the NCLB legislation claimed that economics was driving our educational policy instead of democratic ideas driving our educational vessel (Hursh, 2007). According to Hursh, prior to World War II our national policy of education was a democratic policy in that we

were educating our nation for the sheer purpose of educating our populous so that our democratic system would function properly. Others too have described our national education policy as that of simply producing functionally educated citizens, (Lee & Ready, 2009) The post World War II economic boom changed educational policy from a democratic policy to one that emphasized a business model approach. Education of the masses became a business rather than a pursuit to enlighten the masses (Hursh, 2007 Sunderman, 2009). Dr. P. Airasian, education professor at Boston College, was an early critic of high stakes mandated testing. Airasian contended that most of the time the public doesn't even understand what is being tested by these high stakes assessments. Most parents simply accept any type of proficiency test as a powerful symbol of efficiency; advancement and control (Airasian 1988). While Hursh, Airasian and other critics of NCLB voiced their opposition, the acceptance of mandatory competency testing continued. Now, ten years after the passage of NCLB accountability, standards-based curriculum, benchmarks, and mandatory competency testing drive our national educational policy. While college admissions counselors consider many aspects of applications such as strength of curriculum, extracurricular activities, the single most important determining factor in the application are the "readiness" scores (NACAC, 2011). The

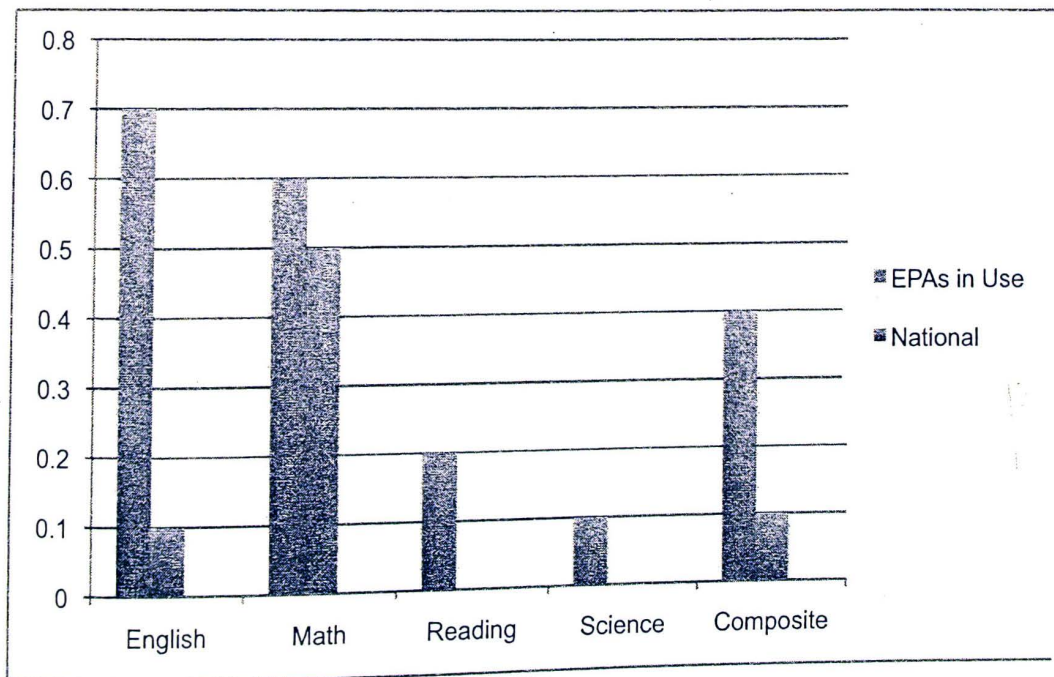
Scholastic Aptitude Test (SAT) scores or ACT scores. 'Readiness' scores have been attained through the ACT's National Curriculum Survey and the administration of the ACT assessment (ACT, 2009).

College readiness, as defined by ACT, "is the level of preparation a student needs to be ready to enroll and succeed without remediation in an entry-level, credit-bearing course at a two-year or four-year institution, trade school, or technical school." (ACT, 2011). Because we as a nation are attempting to improve our educational standing internationally, NCLB has mandated states continually set graduation goals and track schools annual progress (NCLB, 2002). This is where most school systems find themselves today, required by law to produce Annual Yearly Progress (AYP) reports with clearly stated goals that are measurable and in fact are measured and reported. Failure to show progress has serious implications for the school and district; consequences can include removal of personnel or closure of a school (Noble, J. 2003).

The Clarksville-Montgomery County School System in an effort to comply with mandated legislation began using the Educational Planning and Assessment System, EPAS as a method to track and report the progress of it's students from the 8th grade to the 11/12th grades. This program developed by the ACT organization consists of 3 assessments over a period of 3-4 years. The first assessment given in the 8th grade is called the EXPLORE test. The next

assessment is the PLAN test given in the 10th grade and finally, the ACT test is given, mandatorily in the 11th grade, but taken voluntarily in the 12th grade. The basis for this decision was from research presented by the ACT organization, "For each ACT subject—English, mathematics, reading, and science—the average score increases between the pre- to post-implementation periods in the states using EXPLORE and PLAN exceeded those in the nation as a whole." (Noble, 2003). See Figure 1.

Figure 1. State Improvements using the EPAS Program



In 2008 CMCSS began administering the EPAS program to its students. By 2013 the first group to have completed all 3 assessments would be ready to graduate and enter college. Ultimately, the most significant goal of the county was to have students adequately prepared to enter college. The EXPLORE, PLAN and ACT tests are curriculum-based. They measure students' grade appropriate skills and knowledge in English, mathematics, reading, and science. Scores range from 1 to 25 for EXPLORE and 1 to 32 for PLAN. EXPLORE and PLAN also report a composite score, equal to the rounded arithmetic average of the four subject area scores (Noble, 2003).

The ACT test has been used for many years as a benchmark for college readiness. The latest data nationally sets the ACT benchmark score at 21 that indicates college readiness (ACT, 2011). As part of the EPAS system there are benchmarks as well for the EXPLORE and PLAN tests as well. The benchmark for the EXPLORE is 17 (composite) while the benchmark for the PLAN is 19 (composite). What these scores indicate is that if a student meets or exceeds these benchmarks they will have greater success entering a college of their choice, persisting in college and ultimately graduating. There are independent factors that also impact student readiness for college such as school

characteristics, coursework rigor, family educational background and grade point average. However, even with these factors controlled for ACT has found that students meeting the established benchmark scores the student's likelihood for college readiness and success are greater (ACT, 2009).

METHOD

With the upcoming graduation of the first cohort to complete the EPAS program CMCSS was interested in evaluating the program. Thus, some research questions needed to be addressed.

1. Would CMCSS students meet, exceed, or miss the established benchmarks of the EPAS assessments?
2. Did CMCSS students show the same high correlation rates? the ACT data indicated?
3. What factor(s) might explain the results of the comparisons?
4. Is EPAS a reliable system in predicting college readiness as predicted by ACT data?

For exploratory purposes some hypotheses were developed to aid the evaluation of the program. Based on ACT data the EPAS system will identify in the 8th grade students meeting college readiness benchmarks. Therefore, will the CMCSS data meet the ACT predictions in terms of identifying students falling within the college readiness window? Second the ACT data claims a strong correlation between the three assessments, thus will CMCSS data show the same strong relationship among the assessments? Lastly, given these assessments are administered over a 4 year period which among the three assessments will prove to be the strongest predictor of student performance on the ACT?

With the approval of the CMCSS research committee (see appendix A) the researcher then collected archival data from the records of the school system.

Participants

The data was de-identified before being released from the school system database. Test scores for EXPLORE, PLAN and ACT were collected and analyzed in order to obtain answers to the research questions.

Certain criteria were established before collecting the data. The criteria being:

1. A student of CMCSS from 2008 to 2012
2. Male or female

3. All races or ethnicities
4. Taken either all three, two, or just one of the assessments
5. Currently scheduled to graduate in 2012.

Procedure

1660 records were found that met the criteria for the study. From this sizable sample, descriptive statistics were calculated along with correlational analysis and multiple regression analysis were calculated. Other independent variables such as family income, school characteristics, and taken or planned course work were not available to the researcher.

Results

Of the 1660 records collected only 36 had just EXPLORE scores, 1462 had PLAN scores and 1567 had ACT scores. There were only 27 cases that all three scores were present. Of the 36 cases of just the EXPLORE scores the mean was 18.53 with a standard deviation of 4.039. The mean of the PLAN scores was 17.55 with a standard deviation of 3.58 while the ACT mean was 19.35 with a standard deviation 4.671. See Table 1.

Table 1. EPAS Descriptive Statistics – Large Group Means

Assessment	N	Min	Max	Mean	SD
EXPLORE	36	10	30	18.53	4.04
PLAN	1462	7	29	17.55	3.60
ACT	1567	10	34	19.35	4.67

Descriptive statistics for just the 27 cases that had scores for all 3 assessments, revealed significantly higher means than the larger group, see Table 2. The ACT means show a significant difference of 5.98 points difference between the two groups.

Table 2. EPAS Descriptive Statistics - Small Group Means

Assessment	N	Min	Max	Mean	SD
EXPLORE	27	14.00	30.00	19.85	3.41
PLAN	27	14.00	29.00	21.81	3.47
ACT	27	14.00	34.00	25.33	4.76

A correlational analysis was performed to determine if there was an association between the assessments. The closer to +/- 1 the stronger the relation. A correlational analysis of the data shows high correlation among the three assessments. See Table 3.

Table 3. EPAS Correlational Analysis

Assessment	Correlation
EXPLORE/PLAN	.785 *
PLAN/ACT	.875 *
EXPLORE/ACT	.722 *

* correlation is significant at 0.01 level

Thus, with such strong correlational values this indicates there is a strong relation between all of the assessments. This is important especially given the fact that these assessments are administered so far apart in terms of time. Most notably, between the EXPLORE and ACT, which has 3 year gap.

In order to determine the strongest variables influencing the results a multiple regression analysis was calculated. The only independent variables available to the researcher were gender/ ethnicity, and the scores from the EXPLORE and the PLAN assessments. In Table 4 the results of a multiple regression analysis using the ACT as the criterion variable and the EXPLORE and PLAN scores as predictor variables. Using the enter method, a significant model emerged: $F(2, 24) = 52.297$ $p < .05$. This model explains 79.8% (Adjusted $R^2 = .798$) of the variance. Table 4 gives information for the predictor variables entered into the model. EXPLORE scores were not a significant predictor, but PLAN scores were. See Table 4.

Table 4 Multiple Regression Analysis

The unstandardised and standardised regression coefficients for the variables entered into the model.

Variable	B	SE B	β
EXPLORE (composite)	.32	.17	.23
PLAN (composite)	1.00	.17	.73 *

* $p < .01$ level

Discussion

The positive outcome of the analysis is the small group of 27 which took all three assessments of the EPAS program and remained in CMCSS had significantly higher scores than the large group. Most important, the ACT mean of 25.33 was higher than the national benchmark of 21 and significantly higher than the large peer group of 19.35. The small group of 27 exceeded the EPAS benchmark in each assessment; EXPLORE mean 19.85 versus national benchmark 17, PLAN mean of 21.81 versus national benchmark 19. Finally, ACT mean 25.33 versus national benchmark of 21. See Table 5.

Table 5. Comparison Small/Large Group to National Benchmarks

Assessment	Large Group	National Benchmark	Small Group
EXPLORE	18.53	17	19.85
PLAN	17.55	19	21.81
ACT	19.35	21	25.33

Interestingly, the large group scores were *above* the national means on the EXPLORE **only** while PLAN and ACT means were *below*. EXPLORE mean (large group) 18.53, national mean 17. PLAN mean (large group) 17.55, national mean 19. The large group ACT mean 19.35 was below the national mean of 21. With the small group comprising 75% of the large group EXPLORE scores and given the “large group” was actually very small it is easy to ascertain why this mean was *above* the national benchmark. When the small group scores are removed from the large group EXPLORE scores the remaining 9 scores average is 14.55. However, why there is such a significantly smaller number of EXPLORE scores for the large group as compared to the number of PLAN and ACT scores is worth investigating further.

Both the large and the small group verify the ACT model. However, while the small group is a small sample it would be interesting to determine what variables or factors influenced this group to achieve such high means and maintain such high scores. One of the first variables that could be influencing the

small group could be stability. This group remained in CMCSS for the entire battery of assessments that covers four years. This stability of home life and consistency of instruction could be a positive impact on student performance. Conversely, the large group which was only available for two or even one of the assessments could also be effected by a *lack* of consistency of instruction and/or *lack* of stability of home life.

Also, in regard to the small group that started in the 8th grade with above average means, this beginning is of note. One might wonder if these students self-selecting indicating they already have plans to attend college and were interested at this early age, 13/14, in obtaining scores on a standardized test that would be advantageous to them when filling out a college application. It would be satisfying to determine how this small group achieved these above average scores; especially in light of the fact that the mean of the remaining 9 student scores in the EXPLORE category was 14.53.

It may be worthy to note here the small group of 27 maintained above average scores on the PLAN and ACT could have been taking advantage of learned test taking skills. Given their high EXPLORE scores as early as the 8th grade, by the 10th and 11th grade having remained in the same school district with consistent instruction and advanced knowledge of testing events these students may have become more proficient in test taking versus increased content

knowledge.

Limited independent variables were available to the researcher, nevertheless, ethnicity/race, and gender were provided. The demographics for the small group were females 15 (55%) and 12(44%) males. There were 20 white (74%), 4 African American (15%) and 2 Hispanics (7%) and 1 Pacific Islander(4%). Clearly, this sample has a small minority representation. In the large group the demographics were similar but not as skewed on ethnicity, females 47% Males 53%, 62% white, 23% African American 13% Hispanic.

Table 6. Demographics Small and Large Group

Demographic	Ethnicity/Race		Gender		
White	SmGr	74%	SmGr	55%	Female
	Lg Gr	62%	Lg Gr	47%	Female
African American	SmGr	15%	SmGr	44%	Male
	Lg Gr	23%	Lg Gr	53%	Male
Hispanic	SmGr	7%			
	Lg Gr	13%			

As one can see demographically; while it may represent the community at large, there is a disparity between the small group scores which has a majority of

white students and the large group scores which has a larger representation of minorities in it. Based on the 2010 census information, the large group demographics are more in line with the demographics representative of Clarksville as a whole, 76.5% white, 17.2 % African American and 4% Hispanic, the remaining 3% made up of several different minorities.

Further, the correlation and multiple regression analyses appear to confirm that the assessments are valid and reliable in predicting outcomes. The correlational analysis' lowest value was .722 for EXPLORE to ACT. And the highest correlational value was .875 between PLAN and ACT. Though the values are high and desirable the gap in time between assessments most likely explains the lower value between EXPLORE/ACT. The strongest value, .875 is between the closest administrations PLAN/ACT, only one school year apart.

Conclusions

The primary goal of this project was to evaluate the Educational Planning and Assessment System used by Clarksville-Montgomery County School System. This system recommended by the ACT organization claims to identify national benchmarks and track student performance and readiness for college through three assessment instruments. The primary researcher gathered the

data and compared it to the national data published by the ACT organization. Two groups emerged from the data. This small group of 27 students had taken all three assessments and the larger group had taken only two of the assessments. The small group exceeded the national averages on each of the standardized assessments. The large group's PLAN and ACT means were below the national benchmarks. The exception being the EXPLORE scores which were above the national benchmark. Two possible explanations for these results emerge. First, mandatory ACT testing regardless of post high school plans and second, high mobility in the county due to its proximity to Ft. Campbell. The school system can feel comfortable with standards-based curriculum being assessed by these instruments with the high correlational values resulting from the analysis. Further, the predictive value of the system, EPAS appears to be accurate. The small group stayed above the national averages as the ACT model had predicted. Unfortunately, as predicted by the ACT model the scores that were below for PLAN stayed below for the ACT assessment. In regards to the ACT below average scores this is possibly something the district can expect since ACT assessment is mandatory for all 11th graders. A more accurate assessment would be to remove from the sample those students who do not intend to attend college. This type of data was unavailable to the researcher at the time of the study.

Recommendations for Future Studies

The small group that exceeded all benchmarks with such high averages is worth exploring further. A 6-point disparity between the small group mean (25) and national mean (21) is quite significant and would be important for curricular planning to determine what variable or variables could produce a group mean above that clearly above the national benchmark. Another area of exploration would be to examine why the large group EXPLORE scores were above the national average and then the PLAN and ACT scores fell below the benchmark. Nevertheless, the data did follow as predicted by the ACT model. Accordingly, the PLAN scores predicted low ACT scores. However, based on the ACT model the EXPLORE scores did not stay above the national benchmark as expected. While mandatory testing and high mobility within the county could be possible explanations solid research would be helpful to the district in terms of curricular planning. To further extend the validation of the evaluation of the EPAS program this current group of seniors (12th graders) should be followed to assess their first year in college. A longitudinal study of this type would give a more accurate picture of whether or not these students were “ready” for college as predicted by their scores.

Another area of investigation could be into the demographic disparity. In the small group which showed the least minority representation could indicate that minorities are experiencing difficulty in this type of standardized testing

(Jenks & Phillips, M. 1998) In order to provide the best possible education to all students CMCSS should investigate the factors leading to the scoring disparities between minority and majority populations.

Appendix A



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February 10, 2012

Dear Lisa,

Our Research Committee has met and approved your request to conduct research on ACT Prep Programs. Please remember that the complete resulting data is to be given to the District.

Sincerely,

A handwritten signature in cursive script that reads "Sallie Armstrong".

Sallie Armstrong, Ed.D.
Curriculum and Instruction Director

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