

Common Assessments and Instructional Interventions

Improving Economic Instruction
at Tartan High School through
the PLC Process:
Year Two of Our Journey

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If we don't change the direction
we are headed, we will end up
where we are going.

Chinese Proverb

PLC – An Overview of the Professional Learning Community

The PLC stems from a growing realization that educators need to be involved in learning communities in order to achieve many important goals and objectives. Four such goals or objectives would be to:

1. help overcome the isolated nature of the classroom environment.
2. structure a time where ideas, strategies, concerns and needs can be addressed.
3. facilitate cooperative methods geared toward increased productivity.
4. develop strategies to improve both teacher and student performance and accountability.

Common Assessments

An Essential Piece of the Puzzle

1. How do you know that you're effective?
2. The establishment of a baseline
3. A justification and defense of rigor
4. A common destination / uniformity across classes

Common Assessments and Interventions – It's all about the process

1. It takes time
2. It takes research
3. It takes compromise
4. It's a never-ending, on-going process

The Content Process

1. We're aren't the experts. At best, we may be a big fish in a small pond.
2. It's bigger than "us." That said, national and state standards need to be incorporated.

The essential areas of economic education our PLC team focused on for the past two years have included the development of essential:

1. vocabulary.
2. concepts.
3. skills.
4. processes.

The Assessment Process

We got lucky!

Considerations would have included:

1. validity and reliability.
2. intra- and inter-item correlation coefficients.
3. content coverage and emphasis.
4. method(s) of evaluation.
5. readability considerations.

The Intervention Process

Periodic error pattern analysis of all common assessments during the scheduled PLC time.

The highlight here being the essential role played by the common assessment.

Instructional Interventions

1. Concept, skill, or process emphasis
2. Mini-lecture or presentation
3. Classroom activities
4. Website postings
 - a. flashcards
 - b. notes
 - c. on-line worksheets

Pulling It All Together

Numbers can and do lie but they can also provide a valuable index to gauge performance.

With this in mind, here's where we're currently at after our second year of the data collection process...

Continuation of the Major PLC Objectives Adopted by the Economics PLC Team for the 2006-2007 School Year

1. agree upon and administer a common final exam – TEL (Form A)
2. develop and administer a common assessment for each of the five instructional units taught

3. continue with on-going website and other instructional interventions based on the analysis of demonstrated student weakness and discrepancies found on common assessments
4. obtain a general measure of the overall effectiveness of Tartan's economics curriculum as it applies to student achievement – which led us to our project in the first place

What's New for the 2007-2008 School Year?

1. All econ instructors have agreed to collect both pre- and post-test TEL data to better measure student and teacher performance
2. Form a partnership with the district office in order to disaggregate student data and develop a more efficient assessment process by which to measure instructional efficacy

Intervention One for the 2007-2008 School Year

1. The development of two, on-line practice “final exams” available for student use via the Tartan website was implemented.
2. This intervention was available to all econ students for the entire school year.

Intervention Two for the 2007-2008 School Year

1. Beginning with trimester two, the percentage of the final exam was raised from 10% of the student's overall grade to 20%.
2. This intervention was in effect for both trimesters two and three of this school year .

Project Design

1. The experiment consisted of 202 12th grade students enrolled in my required economics course.
2. On the first day of class, each student was administered the TEL (Form B) and results were collected recording the number of correct responses out of the 40 test items and the student's percentage score. This data established our baseline for measuring gains in student achievement.

3. Students then completed the five instructional units: Introduction to Economics; Markets and Price; Business Organizations; Macroeconomics; and International Trade.
4. The TEL (Form A) was administered the last day of class as the final exam and again data was collected recording both the number of correct responses and the percentage score for each student.

5. Pre- and post-test data for each student were paired, random student ID numbers in lieu of student names were assigned and an elementary descriptive analysis of the data was completed.
6. Finally, the results were divided into trimester one and trimesters two/three findings and compared to last year's findings.

Project Objective Number One

Students who had initially failed the TEL (Form B) would be able to demonstrate mastery at a 60 percent achievement level on their final exam (TEL Form A).

Project Objective Number Two

Students who had initially passed the TEL (Form B) would be able to demonstrate mastery at an 80 percent achievement level on their final exam (TEL Form A)

Project Result Disclaimers

1. One student was removed as absenteeism was in excess of 40%.
2. Two students were removed as both admitted to not trying to do their best on the TEL Form A final exam.
3. No student having an IEP or 504 that allowed for adult assistance or test modifications while taking the exam was included in this investigation.
4. All LEP/ESL, IEP, and 504 students with no testing modifications were included.

Learning Objective One for Trimester One
Students Scoring < 60 % on the TEL (Form B) Pre-Test

Pre- and Post-Test Comparisons

School Year	Sample Size	Average Pre-Test Raw Score	Average Post-Test Raw Score	Average Raw Score Gain	Average Pre-Test Percent Score	Average Post-Test Percent Score	Average Percent Gain
2006-07	136	16.22	27.17	10.95	40.90%	68.14%	27.24%
2007-08	77	16.19	28.42	12.23	40.48%	71.05%	30.57%

Learning Objective One for Trimester One
Students Scoring < 60 % on the TEL (Form B) Pre-Test

School Year	Students Who Passed ($\geq 60\%$)	Percent Who Passed	Students Who Failed (< 60%)	Percent Who Failed
2006-2007	103 out of 136	75.74%	33 out of 136	24.26%
2007-2008	61 out of 77	79.22%	16 out of 77	20.78%

Learning Objective Two for Trimester One
 Students Scoring $\geq 60\%$ on the TEL (Form B) Pre-Test

Pre- and Post-Test Comparisons

School Year	Sample Size	Average Pre-Test Raw Score	Average Post-Test Raw Score	Average Raw Score Gain	Average Pre-Test Percent Score	Average Post-Test Percent Score	Average Percent Gain
2006-07	37	27.05	35.84	8.78	67.89%	89.84%	21.95%
2007-08	15	27.33	35.40	8.07	68.33%	88.50%	20.17%

Learning Objective Two for Trimesters One
Students Scoring $\geq 60\%$ on the TEL (Form B) Pre-Test

School Year	Students Who Passed ($\geq 80\%$)	Percent Who Passed	Students Who Failed ($< 80\%$)	Percent Who Failed
2006-2007	35 out of 37	94.59%	2 out of 37	5.40%
2007-2008	14 out of 15	93.33%	1 out of 15	6.67%

Combined Mastery of Students from Learning Objectives One and Two for Trimester One: ≥ 80% Mastery on TEL (Form A) Post-Test

School Year	Students Who Passed (≥ 80%)	Percent Who Passed	Students Who Failed (< 80%)	Percentage Who Failed
2006-2007	75 out of 173	43.35%	98 out of 173	56.65%
2007-2008	41 out of 92	44.57%	51 out of 92	55.44%

Learning Objective One for Trimesters Two and Three Students Scoring < 60 % on the TEL (Form B) Pre-Test

Pre- and Post-Test Comparisons

School Year	Sample Size	Average Pre-Test Raw Score	Average Post-Test Raw Score	Average Raw Score Gain	Average Pre-Test Percent Score	Average Post-Test Percent Score	Average Percent Gain
2006-07	136	16.22	27.17	10.95	40.90%	68.14%	27.24%
2007-08	83	17.33	30.65	13.32	43.33%	76.65%	33.32%

Learning Objective One for Trimesters Two and Three Students Scoring < 60 % on the TEL (Form B) Pre-Test

School Year	Students Who Passed ($\geq 60\%$)	Percent Who Passed	Students Who Failed ($< 60\%$)	Percent Who Failed
2006-2007	103 out of 136	75.74%	33 out of 136	24.26 %
2007-2008	80 out of 83	96.39%	3 out of 83	3.61%

Learning Objective Two for Trimesters Two and Three
Students Scoring $\geq 60\%$ on the TEL (Form B) Pre-Test

Pre- and Post-Test Comparisons

School Year	Sample Size	Average Pre-Test Raw Score	Average Post-Test Raw Score	Average Raw Score Gain	Average Pre-Test Percent Score	Average Post-Test Percent Score	Average Percent Gain
2006-07	37	27.05	35.84	8.78	67.89%	89.84%	21.95%
2007-08	24	27.08	35.83	8.75	67.70%	89.58%	21.88%

Learning Objective Two for Trimesters Two and Three
Students Scoring $\geq 60\%$ on the TEL (Form B) Pre-Test

School Year	Students Who Passed ($\geq 80\%$)	Percent Who Passed	Students Who Failed ($< 80\%$)	Percent Who Failed
2006-2007	35 out of 37	94.59%	2 out of 37	5.41%
2007-2008	22 out of 24	91.67%	2 out of 24	8.33%

Combined Mastery of Students from Learning Objectives One and Two for Trimesters Two and Three:

≥ 80% Mastery on TEL (Form A) Post-Test

School Year	Students Who Passed ($\geq 80\%$)	Percent Who Passed	Students Who Failed ($< 80\%$)	Percentage Who Failed
2006-2007	75 out of 173	43.35%	98 out of 173	56.65%
2007-2008	57 out of 107	53.27%	50 out of 107	46.73%

Miscellaneous Student Data

Students with No TEL Form B

Pre-Test Scores

2007-08 School Year	Sample Size	Average Post-Test Raw Score	Average Post-Test Percent Score	Students Who Passed Learning Objective One (> 60%)	Students Who Passed Learning Objective Two (≥ 80%)
Trimester One	1	37	92.50%	1 out of 1 (100%)	1 out of 1 (100%)
Trimester Two	12	28.67	71.68%	10 out of 12 (83.33%)	6 out of 12 (50%)

Areas for Future Investigation

1. Begin a realistic assessment of what an acceptable “pass rate” of the TEL Form A final exam should be.
2. Generate a data base whereby student performance in economics can be tracked from year to year, preferably at the individual teacher and district level.
3. Begin exploring intervention strategies based on disaggregated data deficiencies.

Concluding Remarks about the Economics PLC at Tartan High School

1. Having recently completed the second year of data accumulation, the concept of a PLC still remains absolutely vital. It allows for teachers to collaborate and fosters an environment more conducive to both the support and accountability of teachers and students alike.
2. For a PLC to function properly, both teachers and administrators must be held accountable for the model to be successful.

Concluding Remarks about the PLC and Tartan's Website

1. Tartan's website as an instructional tool and intervention does work. Anecdotal accounts on the part of students and parents in addition to website "hits" support this conclusion.
2. As our websites have gotten more detailed and comprehensive, a majority of students can now assume greater responsibility in keeping up with class work whether they are in class or absent.

Concluding Remarks about the Economics Project

How does one know if they are a “good” teacher? A great weakness of our profession is that the majority of us cannot definitively answer this question. Beginning and continuing a project along the lines of what the economics PLC team did at Tartan, while time consuming, might give some insight into your strengths and weaknesses and go a long way toward an honest answer as to how “good” you really are. One thing is for certain, your instruction will definitely improve.