Developmental Education

Footprints

DE Committee report, 2009-2010

Prepared by Tue Rust
Contents
Introduction ...................................................................................................................................... 3
A Qualitative and Quantitative Analysis....................................................................................... 4
  History ........................................................................................................................................ 4
  Systems and Programs Accomplishments ................................................................................... 5
  ARCC Measurables ..................................................................................................................... 7
  Quantitative Analysis .................................................................................................................. 9
  Cohort Data and a Simulation ....................................................................................................... 10
  Bibliography ............................................................................................................................... 11
Math Teaching Community, Dec 08 ............................................................................................. 12
Logic Model: Cohort Programs ....................................................................................................... 13
Cohort Programs Thinking Points .................................................................................................. 16
ESL and DE .................................................................................................................................... 21
Tutor Support Team ....................................................................................................................... 22
Introduction

Los Medanos College (LMC) is an amazing community college and its Developmental Education (DE) Program epitomizes this greatness: from weekly DE math meetings to monthly English teaching community meetings, from holistic scoring of math final exam questions to holistic scoring of English 90 argument essays, from integrated curriculum to integrated student services, the LMC DE program is great by any college’s standards.

This report focuses on two aspects of the program, the outcomes of Tue Rust’s leadership as campus-wide Co-DE lead and the outcomes of the campus-wide DE committee for the 09-10 year. It begins with a historical look at the DE program and a qualitative and quantitative analysis of data provided by LMC’s Office of Institutional Research (OIR) and the Accountability Reporting for the Community Colleges (AARC).
A Qualitative and Quantitative Analysis

History

In spring 1996, an accreditation team recommended that LMC

Develop and implement a comprehensive developmental education program to provide
the academic support many students need to succeed in the general education
curriculum (DE, 1998).

In response, LMC created a 17-person Development Education (DE) Task Force with
representation from faculty, staff and management. During the following three
semesters, the task force researched various DE programs and literature, attended
conferences and met bimonthly for three semesters. In spring 1998, they submitted a
41-page report on their findings and recommendations. It was endorsed by the Senate
and led to a Title III grant. Over the next five years, LMC institutionalized many of these
recommendations, which culminated in fall 2003 with the LMC DE Program Formative
Evaluation (DE, 2003). The DE program thus far has accomplished exactly what it
intended to do: create institutional change through implementation of DE-focused
processes and systems. The focus on SLOs has proven to be effective in terms of
qualitative and quantitative measures.
Systems and Programs Accomplishments
LMC boasts a campus-wide culture that focuses on developmental education. A DE program was created and includes the following: institutionalized release time, institutionalized teaching community funds, weekly and monthly committees, professional development and teaching community funds. The majority of full-time math and English faculty members teach at least one DE course. ESL was recently added to the program and two faculty members are very involved. Campus-wide DE has its own Institutional Student Learning Outcomes (ISOs) and Math and English DE programs have their own Program Student Learning Outcomes (PSLOs).

Several DE initiatives have led to campus-wide change (DE, 2003). One of the program’s first objectives was to instill mandatory assessment (ACCUPLACER), which has greatly improved math and English instruction and has led to increase success rates.

The program also initiated holistic assessment and evaluation of student learning outcomes (SLOs) at LMC. The SLO work of DE English and DE Math led to SLOs for their entire departments. DE English and math SLOs influenced the Curriculum Committee’s work on bringing SLOs to the entire campus. DE English and math research-driven evaluation processes influenced the CSLO Level Assessment Software System (CLASS) that is now used to for campus-wide CSLO assessment.

The DE program focused on integrating instruction and academic support services, which has helped lead to campus-wide tutoring and the Counseling Partnership. It is well-known that having a strong tutoring program improves student success and there is strong data that our students enjoy and use our tutoring services. It is also well-known that there is a correlation between students with ED plans and completion rates, which is one of the main goals of the Counseling Partnership.

The DE program created a culture of research within developmental education, which has led to campus-wide assessment in the form of Program Review and the Teaching and Learning Project. On LMC’s Office of Institutional Research web page, six of 37 reports are solely for DE. Such research shined a light on Math 12 and English 70 and disaggregated data further focused efforts on African American students. This was the first time LMC looked at disaggregated data beyond enrollment. It was also LMC’s first longitudinal study.
The DE program has had significant impact on its students. Below are figures from a presentation at the 2007 Strengthening Student Success Conference (Snell & Ybarra, 2006).

Holistic assessment proficiency results of Algebra 2 final exams after implementing Teaching Communities in spring 2005.

<table>
<thead>
<tr>
<th>Year</th>
<th>FA 04</th>
<th>SP 05</th>
<th>FA 05</th>
<th>SP 06</th>
</tr>
</thead>
<tbody>
<tr>
<td>% proficient or better in Problem Solving</td>
<td>59%</td>
<td>80%</td>
<td>80%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Persistence rates for English 70 (two levels below transfer) after implementing the Counseling Partnership in fall 2001.

<table>
<thead>
<tr>
<th></th>
<th>FA99</th>
<th>FA01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>57%</td>
<td>61%</td>
</tr>
<tr>
<td>Persistence Rate</td>
<td>44%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Success rates for Math 25 (two levels below transfer) after a fall 2003 implementation of new prerequisites. Success rate here is the percent of students who earn a C or better that semester. This is a more restrictive constraint than ARCC’s definition.

<table>
<thead>
<tr>
<th></th>
<th>FA02</th>
<th>FA03</th>
<th>FA04</th>
<th>FA05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>50.8%</td>
<td>54.8%</td>
<td>56.1%</td>
<td>63.4%</td>
</tr>
</tbody>
</table>

In a student survey, 74% of students rated learning activities developed by the Teaching Community as important or very important to their learning. 60%-70% of students rated their achievement of Math DE program outcomes at a 4 or 5 (on a scale of 5).

In a faculty survey, 100% of participating instructors said the staff development activities positively impacted their teaching; 91% of instructors participating in outcomes-based assessment of final exams.

The following URL explains the impact of professional development on programmatic change at Los Medanos College.

**ARCC Measurables**

Although the DE program has produced undeniable improvement across many qualitative and quantitative measurements, there is always room for improvement. These courses are coded as basic skills courses. The following ARCC data illustrates this concern (California, 2010).

<table>
<thead>
<tr>
<th></th>
<th>LMC's Rate (%)</th>
<th>Distance from Peer Group's Low (%)</th>
<th>Distance from Peer Group's Average (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-04 04-05</td>
<td>05-06 06-07 07-08 08-09</td>
<td>05-06 06-07 07-08 08-09</td>
<td>05-06 06-07 07-08 08-09</td>
</tr>
<tr>
<td>Annual Successful Course Completion Rate for Credit Basic Skills Courses</td>
<td>56.3 58.1</td>
<td>57.6 56.1 55.7 61.4</td>
<td>6.3 5.6 3.7 6.4</td>
</tr>
<tr>
<td>Improvement Rate for Credit Basic Skills Courses</td>
<td>38.7 35.0</td>
<td>44.1 47.7 48.1 51.0</td>
<td>4.5 16.2 16.7 18.1</td>
</tr>
<tr>
<td>Improvement Rate for Credit ESL Courses</td>
<td>N/A 50.0</td>
<td>26.1 8.5 30.6 14.0</td>
<td>N/A 8.5 22.7 14.0</td>
</tr>
</tbody>
</table>

- **Blue**: No Peer Group for comparison
- **Red**: This rate is worse than last year
- **Yellow**: This rate is better than last year but not better than years previous
- **Green**: This rate is the best rate of all years previous

(Research, 2008)

**Fa03 cohort Annual Successful Course Completion Rate**

<table>
<thead>
<tr>
<th></th>
<th>English 70</th>
<th>English 90</th>
<th>Math 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=240</td>
<td>n=138</td>
<td>n=155</td>
</tr>
<tr>
<td>Annual Successful Course Completion Rate for Credit Basic Skills Courses</td>
<td>61.3</td>
<td>61.6</td>
<td>56.8</td>
</tr>
<tr>
<td>Improvement Rate for Credit Basic Skills Courses</td>
<td>57.5</td>
<td>65.9</td>
<td>46.5</td>
</tr>
</tbody>
</table>

**Fa03 cohort Improvement Rate**

**Annual Successful Course Completion Rate for Credit Basic Skills Courses**

- Did a student who took a basic skills course (Math 4/7/9 or 12 and English 50, 60 or 70) earn a C or better?

**Improvement Rate for Credit Basic Skills Courses**

- Did a student who took a basic skills course two years ago complete the next higher course by the end of the measured year?
Annual Successful Course Completion Rate for Credit Basic Skills Courses

Years after 03/04

LMC Raw Data (p-value 0.400)

Improvement Rate for Credit Basic Skills Courses

Years after 03/04

Distance from Group's Average (p-value 0.551)

Distance from Group's Low (p-value 0.835)

Distance from Group's Average (p-value 0.163)

Distance from Group's Low (p-value 0.154)
Quantitative Analysis

The only statistically significant data is the upward trend for LMC’s improvement rate (green). LMC is seeing a constant 2.98% increase each year in its improvement rate from 03/04 through 08/09 (p-value 0.012). Although this trend is not significant when comparing LMC to its peer group, we are hopeful that more data will show significance.

With only four years of data, it is nearly impossible to find statistical significance. This is most evident when reviewing LMC’s Basic Skills successful rates in the left column (yellow). In 05/06, LMC performed well with respect to other colleges in their peer group (for the first two years, ARCC did not include peer groups). For the next two years, LMC underperformed, as seen by the middle dots on the yellow graphs and the red and yellow boxes in the sub-tables. Then, in 08/09, LMC saw a large jump in its success rates, as seen by the last dot on each graph and the green box at the end of each sub-table. We are very hopeful that this large increase can be sustained and eagerly await more data, for LMC is only 5-7% higher than the lowest college within its peer group.

As with all percentages, there is a maximum a college can attain. As LMC’s success and improvement rates approach the mid-sixties, we expect to see a tapering off. Very few colleges break 70%. We are hopeful to achieve 70% in one of the rates at least once.

All ESL classes were coded at the same level so there could be no improvement. Thanks to the work done by Paula Gunder and Gabrielle Boehme, now ESL is coded from levels 4 through 1 and we hope that over the next few years, we will be able to analyze ESL data.
Cohort Data and a Simulation

LMC’s Office of Institutional Research performed a longitudinal study on data from 2003-2006. The purpose was to show disaggregated data on the percentage of students who completed transfer-level math and English, yet entered at various levels. Below are the aggregated results.

<table>
<thead>
<tr>
<th>Began</th>
<th>Completed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-level below transfer English</td>
<td>English 100</td>
<td>40%</td>
</tr>
<tr>
<td>Pre-Algebra</td>
<td>Statistics</td>
<td>5%</td>
</tr>
<tr>
<td>Algebra</td>
<td>Statistics</td>
<td>21%</td>
</tr>
</tbody>
</table>

In a separate “white paper” simulation performed by Tue Rust, assuming 70% success and persistence rates (college rates are closer to 60%), it was found that students who fail to persist into Math 34 (Statistics) spend on average 2 semesters (SD 1.04) in DE math. Those who succeed spend 2.11 (SD 1.80) semesters. For more information on this simulation, please email Tue Rust (trust@losmedanos.edu).

The interpretation of the simulation is if students do not successfully complete their pre-transfer-level math courses within 2 semesters, then they most likely never will. The conclusion is LMC needs alternate models for the math DE pipeline. Specifically, it is Tue’s belief that LMC needs to:

1. Support entering students by working with enrollment management to create sections for scalable programs such as Math Path and ACE
2. Continue to support Puente and Umoja
3. Support a campus-wide orientation process

We would be remiss to only improve rates through elimination methods. We must also support our first-time freshmen. Puente and Umoja reach students in need. These students deserve extra attention and funding. Math Path and ACE are scalable communities. Together, these two programs can reach over 300 students per year. Together with AVID, these three programs can become our FYE and change our entire campus. They cost money, but relatively little (~$100/student). They cost sections, but relatively few compared with the entire college (less than 4%). We are gathering data to show that adding sections that support these initiatives actually effectively removes sections, for the success and persistence rates of these pipeline courses are projected to be enormously high.
Math Path created a RAP for one section/semester for 4 semesters. We are looking into ways to make Math Path a zero cost program in terms of sections. Stat Path does not require extra funding and each Stat Path course effectively removes 2 math courses. However, it is an intense, accelerated course and works best in a learning community environment such as Puente or ACE. We hope to show that one ACE cohort effectively removes 3 non-ACE classes.

Bibliography


Math Teaching Community, Dec 08

In preparation for running the campus-wide DE committee, Tue Rust facilitated a math teaching community. Following the Greater Impact model, after doing it and documenting it, Tue shared it by creating a wiki.

Celebration of our Shared Purpose:

Fall 2008 Math

| Deeply understand the concept of reform mathematics through a series of lesson studies of LMC's elementary algebra curriculum | Help current and future colleagues by creating an electronic portfolio focusing on the elementary algebra SLOs | Understand what our students are learning through qualitative and quantitative assessments of elementary algebra student work |

The wiki is roughly 80% complete and although Tue hopes to continue improving the site, it is also his hope that it will never truly be complete. In other words, he hopes this becomes a living document and a cornerstone for future professional development activities.
Logic Model: Cohort Programs

Throughout this experience, Tue realized the power of teaching communities and naturally began thinking about the power of learning communities. He experimented with joining AVID and over the summer of 2009, he attended 150+ hours of conferences and institutes centered on teaching and student community building. There, he developed a logic model for a campus-wide learning community infrastructure.
LMC has evidence of the will and intention of the college community to create this infrastructure through the BSI self-assessment.

Have students on committees
Have program-specific persistence data

All programs run out of it

Director
Tina (Conceptual expertise and people skills)

Evaluator
Michael (Techie)

Staff
Admin Assistant
Logistical Coordination (field trips etc)

Could be director initially

Outreach?
Could be Jorge or Marco
At High Schools year round promoting and recruiting

Infrastructure for LCs/FYE/Programs
Get Math, English, and existing programs on DE committee
Disaggregated data
Greater research capacity
Benchmark
Define what LMC wants in an LC and FYE

Output
Teaching and Learning Center

Short Term Outcomes

Long Term Outcomes
Higher Completion Rates
LMC has evidence of the will and intention of the college community to create this infrastructure through the BSI self-assessment.

What happened every term?
Where are we in 2 years? 4 years?
Strategy research proposals
Make snapshots for the non-data people
Make timelines
Reflect on the human impact in terms of the goals of the initiative and the mission of the institution
A consideration of student and faculty perception as it relates to benefit vs cost
Economic efficiency in relationship to difficulty of the task at hand

Recorder
Facilitator (not a counselor, not someone involved in the initiative)
3 people
Focus groups
Bystander “keeps you honest” and gives suggestions to facilitator
Pay $50 to each student

Process data and defines the message
All our programs!1
Get math involved
Meets twice a week!

Data Team
Activities
Short Term Outcomes
Long Term Outcomes
Output
Situation
Needs
Resources
Cohort Programs Thinking Points

Ready with fresh knowledge and ideas, Tue discussed possible foci for the 09-10 DE Committee with Joellen Hiltbrand. Together, they decided to focus on creating group wisdom and intelligence around learning communities (LCs). Over the summer, Joellen and Tue researched famous learning community programs and reported their findings to the DE committee. They also attended the 2009 Strengthening Student Success Conference and asked LC pioneers questions created by the DE committee.

The entire year-long process was rich in professional growth and culminated with a final product entitled, “Cohort Programs Thinking Points”. The document is a set of questions centered around four criteria: Effectiveness, Course Content, Student Involvement and Structure of the Model. It is designed for existing cohort programs to use as they strive to improve. It is also designed to help analyze new cohort programs.

The DE Committee now joins many other groups on campus in having developed group wisdom and intelligence around cohort programs. We hope to eventually reach a tipping point that will converge toward a campus-wide focus on cohort programs, with the eventual goal of having specialized programs for all entering LMC students. We now wait for new DE leadership to take up the torch and continue the effort. We also wait for funding to support the building of physical infrastructure and dedicated job positions.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Thinking Points</th>
</tr>
</thead>
</table>
| Effectiveness     | • How does the program define its effectiveness?  
• What observable focus is there on numbers of transfers, success, persistence or retention?  
• How intentional is the served population? If it’s “open to all”, how do you create equity?  
• What historical research supports the program?  
• What current research is being done?  
• How focused is the cohort on institutional change?  
• Who is involved: core group, advisers, supporters  
• Is there a leadership component and if so, how does this improve the program’s defined success?  
• How does the cohort prepare students for after the cohort?  
• How sustainable is the program: champion led or decentralized leadership, grant-funded or institutionalized? |
| Course Content    | • What are the values imbued in the courses?  
• What are the overall goals of the course? SLOs? Beyond SLOs?  
• How are the courses integrated: common assignments, team teaching, common themes  
• How are the courses coordinated: assignment due dates, times/days, scheduling  
• How culturally relevant is the curriculum/pedagogy: up to the teacher, built into the curriculum  
• Are students taught to learn independent of their teach and if so, how: team building, partnerships, large-scale projects  
• Is there a focus on success behaviors? Why or why not?  
• How is the curriculum connected to student needs and a sense of empowerment?  
• Are their intervention strategies? If so, what are they and how are they implemented?  
• How does the content celebrate diverse perspectives?  
• How do teachers communicate about each other’s curricula? Over the summer? Every week?  
• How does the curriculum create long-term focus on educational goals: ED plan, life-plan  
• Is there a set curriculum? If so, how do teachers “make it their own” If not, how do you ensure equity of instruction? |
## DE Committee Report 2009-2010
Prepared by Tue Rust

### Student Involvement
- How is student and human development nurtured and encouraged?
- Is there a mentorship program or other leadership progression?
- Is the curriculum faculty-driven or student driven or both?
- How does the cohort prepare students for after the cohort?
- How are students involved beyond their classroom experience?

### Structure of the Model
- How does the structure of the cohort lead to defined success?
- Do students have a central meeting space?
- What is the feedback process for improvement and how quick is this feedback assimilated?
- Is there an acceleration component: curriculum, scheduling, full-time push,
- How do instructors grow professionally? Are there specific models used?
- Is the data collection process imbued within the curriculum/pedagogy or is it separate?
- Is there an in-take and exit process? How detailed and intentional is it? Is there data collection involved and if so, how is it collected and used?
- How is student self-improvement/reflection (i.e. counseling) integrated within the model?
- Does the cohort use specific models for sharing success: assemblies, open-house, web-pages
- For how many semesters does the cohort persist? If one semester, does the cohort link to other cohorts? If multiple semesters, how does the model account for attrition?
- How many units do students take? If it's less than full-time, is there guidance for other courses?
| **Institutional Support** | - How integrated is the model with the college’s, Master Plan or a department’s Program Review?
- How involved are all areas of the campus: student services, financial aid, EOP&S, counseling, non-counseling faculty, senate/SGC, staff, management
- To what degree does the implementation model involved the institution: reports, interconnection
- What must be changed within LMC to fully support the model?
- How is the cohort program defined: a separate funding bin, it’s own department, within a department
- What buy-in is there from LMC employees?
- How efficient and effective is the recruitment process: word of mouth, classroom visits, connected with other programs that have effective recruitment processes
- If training is required, how involved is the institution? On-campus, institutionalized
- Does the cohort program transition into other cohorts?
- What is the intake process and what campus areas are involved with the process? |

| **Scalability** | - How many students can be reached each year?
- What are the required skills, abilities or understandings of faculty: specific degree or training
- When all is said and done, what is the total cost? Cost per cohort? Cost per student?
- Is there release time? If so, what is it used for? If not, how is coordination handled?
- How accessible is the cohort program? How easy is it for a new faculty member to begin teaching within the cohort? How easy is it for a new faculty member to become a core member?
- What is the time requirement for various levels of involvement?
- If the cohort program is scalable, describe the plan for scaling? What are the milestones and major changes as it scales?
- What is the start-up cost in terms of time and money?
- Once the cohort program has reached a steady state, what is required of its participants beyond the teaching of the course and occasional meeting or report? |
Definitions

**Acceleration**

**Assessment:** Lowered or removed prerequisites;

**Curriculum:** Combining of two chained or linked courses (Reading and Writing, Math 25A/B)

**Scheduling:** Two chained classes taught in one semester (Math 25 and 30 in one semester)

**Learning Community**

At the minimum, a pairing of two classes that a cohort of students attends

**Program**

A separately funded initiative (or an institutionalized initiative) that, at a minimum, has a champion or lead which ensures the program's continuance. It is has a definite focus in terms of purpose, interaction with students, recruitment, etc. Programs often have learning communities within them.

**Rates**

**Completion:** The percentage of students who complete their educational objective: certificate, degree or transfer

**Persistence:** Of the students who successfully complete a course, the percentage of students who register for the next course

**Success:** The percentage of students who earn a C or better

**Research-driven**

Research shows that the learning community or program is effective and/or that there is a need to focus on this population
ESL and DE

In Spring 2010, ESL officially became a member of the DE program. Gabriela Boehme and Paula Gunder, two enthusiastic adjunct ESL instructors, attended all DE meetings and were eager to find commonalities with DE math and English. With this inclusion, ESL now has ISLOs and can participate in program review. We hope this relationship can grow as many of our ESL students take DE math and English courses. We also believe looking at DE classes from this new lens can strengthen the program’s effectiveness both for ESL and non-ESL students.
Tutor Support Team

The Tutor Support Team (TST) began organically in an attempt to continue the work that Katherine Cook began, namely to help bring together LMC’s various tutoring services. Although Sandra Mills, Ruth Goodin, Rosa Armendariz and Tawny Beal have all helped lead the team, “effectively integrating instruction and academic support services” is one of four DE Program Goals. Thus Tue attended all TST meetings. The most salient deliverable was the creation of Tutee Learning Outcomes:

1. Describe and locate the most appropriate tutoring services for their need(s)

2. Demonstrate increased confidence in their abilities as a student

3. Apply the study skills developed through tutoring to LMC course work. Study skills are defined as note taking, time management, effective use of materials etc.

4. Develop skills needed to be an independent learner. Those skills are identifying information need, thinking critically, initiating inquiry, and evaluating information.

The TST then piloted and analyzed an assessment of TLO 1. During the fall 2010 semester, they further reviewed the analysis, made appropriate changes to the survey and delivery thereof, and performed the assessment again, adhering to the PSLO assessment cycle.

Tue informed the DE Committee of the creation of the TST, engaged the Math department with the creation of the TLOs and met with math lab coordinators 2-4 times per month. This marked the first official release time associated with a math faculty member supporting a math lab coordinator. There were many other benefits to this relationship, the most notable being an entire rearrangement of the Math Lab.
Below is a diagram linking all of the tutoring services at LMC.
Closing Remarks

Although many students have benefited from the volume of work accomplished in 2009 and 2010, I believe I have learned more than anyone. I wish to thank Myra Snell for suggesting that I run a teaching community as my initiation to DE lead. It grounded my perspective in perceived student learning, which is a hallmark of successful programs. It also opened me to the possibility of campus-wide communities of learners for all LMC employees and students. It is my hope that someday committees with institutional power, such as the DE committee, will develop a similar focus and thus transform LMC from a campus of great individuals to a campus that seamlessly supports its students from before they enter, through their stay, to after they leave.

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