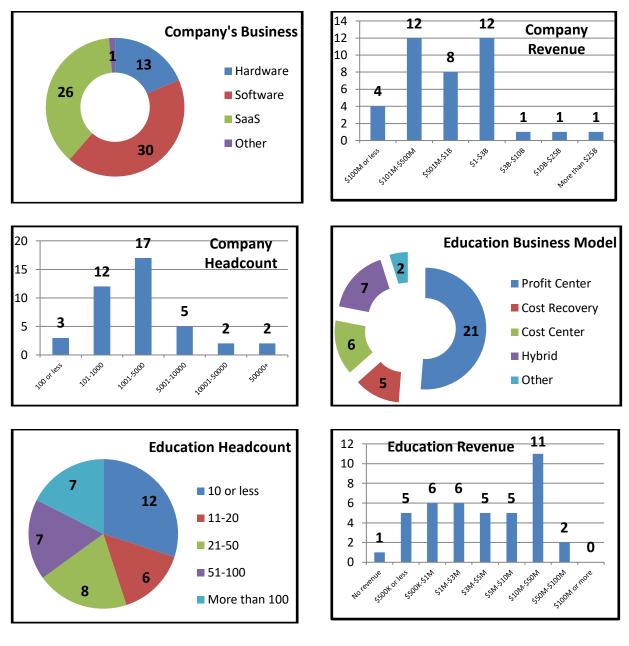


CEdMA Training Market Barometer 4th Quarter 2016 Actual

Introduction

This report is compiled by CEdMA for its members about their Education businesses. It is based around a series of absolute growth or decline percentages in the range +- 12.5%. Revenue and volumes refer to training services delivered in the quarter and not future bookings. Members were asked to indicate whether their data was for the global business or that for North America. Note that in this report, u/f/d is the number of members reporting up/flat/down, respectively. There were 35 responses for global and 8 for North America so the combined 43 profiles are as follows:



Changes to the Barometer

In response to member suggestions, we have changed the survey in the following ways from 16Q1:

- 1. We only collect data about the quarter just ended, not the "current" quarter
- 2. All questions ask about revenue, not some about volumes
- 3. We ask about the major modalities such as ILT, VILT and eLearning, plus additional services.

Summary

The unweighted average uses all responses as entered, whereas the weighted average uses the size of the revenue, taking the relevant education value, so larger companies have a bigger impact.

These observations are weighted and based on trendlines of 4-period moving averages.

Total Revenue is defined as all recognized revenue. This is now steady at a 4-5% increase year-on-year. **Operating profit** is revenue minus all fixed and variable costs, excluding allocations, divided by revenue. The growth is now 3% year-on-year, a steady increase from 1% in 2013.

Live Classroom (ILT) is all revenue when the instructor is in the same physical location. Growth was flat in 2013 but is now 2%.

Virtual Classroom (VILT) is all revenue for instructor-led training via the web, with or without virtual labs. Growth dropped to 1-2% during 2013 but has been consistent at 6% for the last two years. Public (scheduled) classes is revenue for ILT and VILT and now showing flat, having peaked at 2% in 2014.

Private (one-customer) classes is revenue for ILT and VILT, and showing an increase of 3% again, having been 3-4% in 2014, but just under 2% in 2015.

Self-paced is all revenue generated by training students without instructors, such as eLearning, video, and can be paid per use or subscription. It's now showing a 7-8% increase having grown steadily from a 4% increase in 2014.

Certification is all revenue for certification business, such as exam fees and exam prep services, but excluding any exam prep training which is accounted under ILT/VLT/self-paced. The trendline has fallen to just under 1%, having been over 5% a year ago.

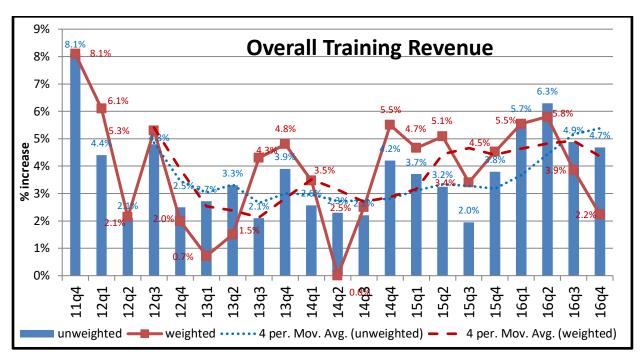
Learning Consulting is all revenue generated by non-training education business like learning needs analysis, customization of material assessments, and mentoring/coaching after training. There was an increase of 2.4% in 16Q1, an increase of 3.2% in 16Q2, but decreases of 0.7% in 16Q3 and 0.6% in 16Q4. **Learning Technologies** is all revenue generated by learning tools, infrastructure, courseware and directly related training and learning consulting for these technologies. There was a decrease of 2.3% in each of 16Q1 and 16Q2, and even 2.4% in 16Q3, but flat in 16Q4.

New Learning Modalities is all revenue for social learning, gamification, microlearning, mobile. There was an increase of 12.1% in 16Q1, 7.3% in 16Q2 and 7.4% in 16Q3, compared to the same quarters in 2015, but this has fallen to 0.8% in 16Q4.

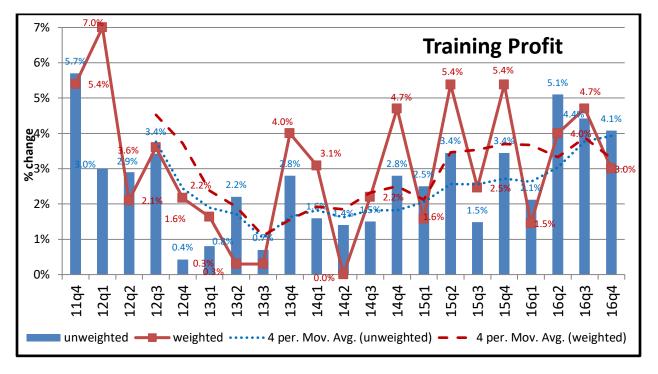
Subscriptions include all revenue from any of the above modalities included in subscriptions. There was an increase of 10.7% in 16Q1, 5.0% in 16Q2, 11.2% in 16Q3, and 4.7% in 16Q4, compared to the same quarters in 2015.

Training Revenue and Profit

The unweighted total training revenue increase for 16Q4 (u=25, f=6, d=8) was 4.7%. The weighted total training revenue increase was 2.3%. The 4-period moving average is currently showing an increase of 5-6% for unweighted and 4-5% for weighted.

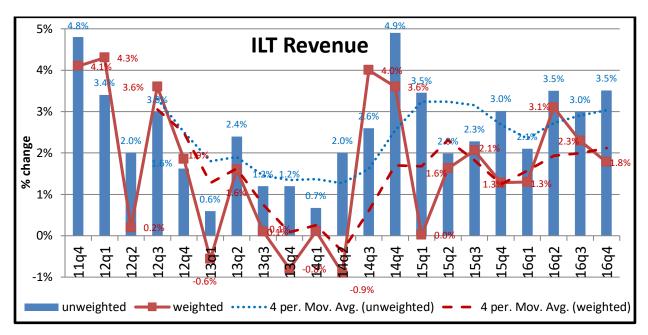


Training profit in 16Q4 (u=21, f=10, d=7) was a 4.1% increase unweighted, and 3.0% weighted. The training profit four-period trendlines currently show a 4% increase for unweighted and 3% weighted.



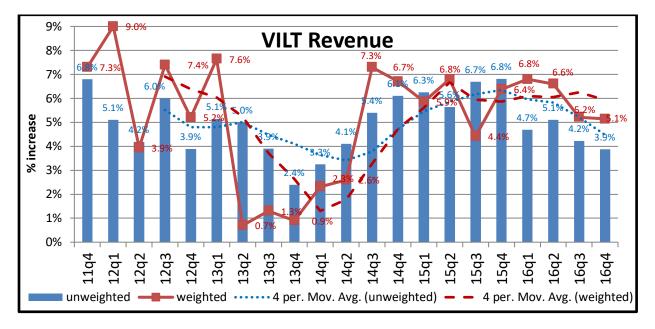
Live Instructor-led Training

The unweighted live classroom **revenue** increase for 16Q4 (u=21, f=5, d=11) was 3.5%. The weighted live classroom volume increase was 1.8%. Live classroom revenue, however, is still increasing! The 4-period moving average is 3% increase unweighted and 2% increase when weighted.

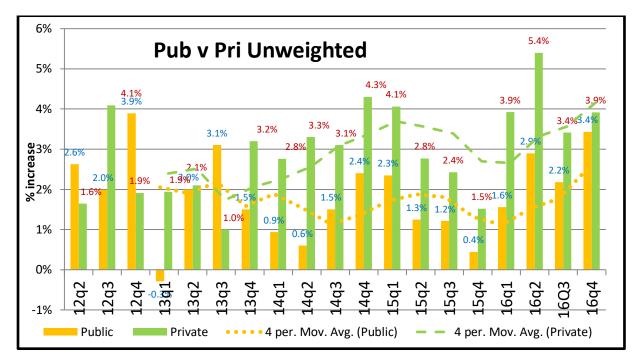


Virtual Instructor-led Training

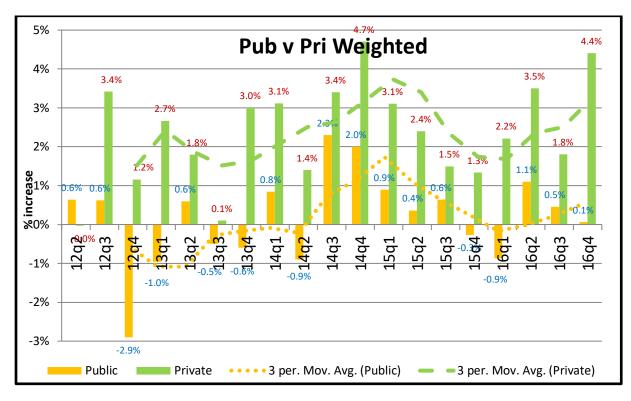
Virtual classroom on the other hand has been growing faster, apart from a small dip in 2013-14. The unweighted virtual classroom **revenue** increase for 16Q4 (u=24, f=9, d=5) was 3.9%. The weighted virtual classroom volume increase was 5.1%. The 4-period moving averages for unweighted has dropped to 4-5% but weighted is steady at 6%. Live and virtual classroom data underline the expected trend to virtualize more training to save travel expenses and allow better resource utilization.



We now include questions on public classes and private classes. After a "blip" in 13Q1, both **revenues** have increased in 16Q4, by 3.4% public and 3.9% private. The trendline for public is 2-3% and for private is 4%. (Note that public is u=19, f=9, d=7 and private u=22, f=9, d=6.)

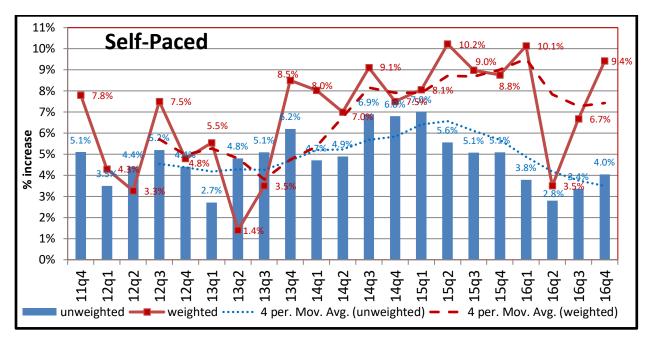


When weighting is considered, the changes are less dramatic. Public **revenue** has increased 0.1% and private **revenue** has increased 4.4%. The 4-period moving average is just above flat for public but is 3% for private. So, there's consistency with both unweighted and weighted trendlines, but 2-3% apart.



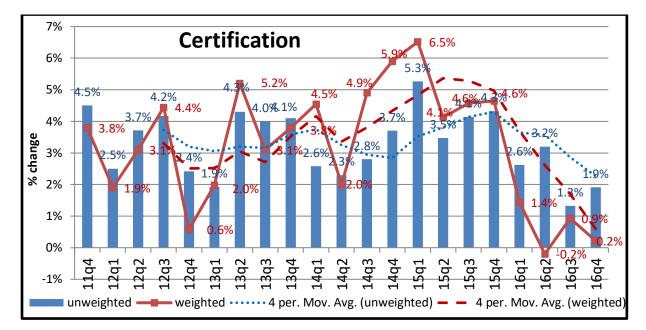
Self-Paced

The unweighted self-paced **revenue** increase in 16Q4 (u=19, f=11, d=4) was 4.0%. However, the weighted self-paced **revenue** increase was 9.4%, a much greater increase than last quarter. The growth remains higher than virtual classroom. The 4-period moving average shows a 3-4% increase for unweighted and 7-8% for weighted.



Certification

The unweighted certification **revenue** increase for 16Q4 (u=10, f=18, d=6) was 1.9%. The weighted certification **revenue** increase was 0.2%. The 4-period moving average is showing an increase of 2% for unweighted but weighted has dropped to just under 1%. 34 out of the 43 companies offer certification.



Learning Consulting

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	32	5	22	5	0.0%	2.4%
16Q2	32	6	22	4	0.9%	3.2%
16Q3	31	5	21	5	0.2%	(0.7%)
16Q4	30	7	20	3	1.0%	(0.6%)

Learning Technologies

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	29	7	21	1	1.0%	(2.3%)
16Q2	31	3	25	3	0.3%	(2.3%)
16Q3	27	3	23	1	0.9%	(2.4%)
16Q4	26	1	25	0	0.5%	0.0%

New Learning Modalities

Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	30	9	21	0	2.4%	12.1%
16Q2	31	4	27	0	1.%	7.3%
16Q3	29	5	23	1	1.6%	7.4%
16Q4	27	4	23	0	1.1%	0.8%

Subscriptions

-			_			
Period	# responses	# up	# flat	# down	unweighted	weighted
16Q1	36	18	18	0	4.3%	10.7%
16Q2	34	15	17	2	3.8%	5.0%
16Q3	33	13	18	2	3.9%	11.2%
16Q4	32	16	13	3	4.6%	4.7%

Which subject areas saw the biggest increases in your training volumes in the last 3-6 months?

- 1. eLearning training
- 2. Industry-related strategy (not software training)
- 3. Increase in customer sales resulted in increases across the board.
- 4. Private, bespoke training that combine multiple delivery methodologies still leading the pack. Starting to see a very small but measurable contribution from eLearning being sold as a course (v. part of a subscription).
- 5. Security products
- 6. OnDemand (self-paced/eLearning)
- 7. ILT Public Classroom Events
- 8. Security, Data Center
- 9. Consultative based learning services and subscription are the two major growth areas. We have been positioning subscription services for almost a year and the sales cycle is long in length and tied to enterprise SW commitment. We tripled our client based in Q3 based on closings. Also,

we resolved some technology challenges around custom training and this has impacted a large increase in our learning consulting line of business where we deliver custom training for the end user.

- 10. eLearning subscriptions
- 11. We just started selling training via an eCommerce portal so increases were in all areas. We have offered consultations for a long time and those have stayed steady, because they are part of our implementation fee and process for every customer.
- 12. No real change
- 13. All of our classes. Currently we teach 3 courses, all ILT. I don't have any info on the ATC classes.
- 14. Technical Support
- 15. Learning consulting
- 16. Public Virtual Training; Training delivered in Central America and Caribbean; Private Training
- 17. Public classes
- 18. One-customer live training
- 19. Finance
- 20. Private classes and our train the trainer, content licensing is making an impact on customer sat and traction.
- 21. Layer 2/3
- 22. Self-paced, certifications
- 23. eLearning subscription revenue is increasing for us. Program is fairly new with revenue still building.
- 24. Onsite training, particularly for SI partners
- 25. Subscriptions
- 26. Customized, onsite training.
- 27. Private classes; Virtual classes; Learning Consulting; eLearning
- 28. Virtual classroom and certifications driven by partner training
- 29. ILT
- 30. Private Classes
- 31. Virtual ILT, eLearning subscriptions
- 32. Business process management
- 33. On-demand self-study.
- 34. Sales of Training Credits

Which subject areas saw the biggest decreases in your training volumes in the last 3-6 months?

- 1. Instructor-led training
- 2. None
- 3. None
- 4. Public classes are still challenging to fill but did improve this past quarter.
- 5. Varied across smaller volume product lines
- 6. Public Training (on premise), certification
- 7. Self-Paced Online
- 8. Routing and switching
- 9. in Q3 private and public classroom declined over Q1-Q2 mostly due to standard summer months and lack of registration in North America
- 10. In-Center (=public) classes; Learning consulting

- 11. Overall student counts were down
- 12. None
- 13. Live classroom training
- 14. Public Classroom Training; Information governance trainings
- 15. Certifications
- 16. None
- 17. Technical
- 18. Self-paced gated by the LMS
- 19. Software Networking
- 20. Beginner-level training classes.
- 21. ILT student days
- 22. Public training.
- 23. Certifications; Public ILT open enrollment
- 24. Self-paced non-labor revenue
- 25. Public courses, certifications
- 26. End user courses
- 27. No decreases
- 28. None

What were the two greatest challenges you faced in running

your business in the last 3-6 months?

- 1. Had to deliver our first live instructor-led class on our new product at our first ever user conference. Standing up our software in a cloud lab environment for the first time (Tried ReadyTech; Now in POC with Skytap)
- 2. Adapting to the rapid pace of change in the software; Tying efforts to key product adoption metrics
- 3. Meeting demand; Maintaining a healthy instructor utilization number; We are way over utilized at the moment.
- 4. Funding of new technologies; Updating team skillset
- 5. Keeping up with all product development; How to increase training demand
- 6. Attach Rates & Marketing Support; Curriculum Development timelines too long to get materials to classroom
- 7. Limited headcount; Added internal/employee training
- 8. Decrease in ILT purchases; Delivering in more regional languages
- 9. Tools and technology continue to be a challenge for us. We are currently looking at best approaches for eCommerce and are running operations out of SFDC on custom developed architecture designed for business requirements almost 10 years in the past has challenged our ability to scale along with the increase revenue and demand. Tied to this is ability to report and analyze in an automated way very disparate systems. We are in requirements gathering phase for 2017 deployment.
- 10. Changing Business Model; Developing the right online content
- 11. Need to overhaul the portfolio to adopt new learning technologies (freemium models); Go to Market model changed and not yet fully adopted
- 12. Getting existing customers to understand why we are charging for training, when they have perceived it as free because it was part of their implementation fee and not separated out. The second is trying to determine how to best package and offer our subscriptions mix of courses to include, length of time to allow, how to set up in our learning management system, etc.

- 13. Demand for training in more languages and not enough budget to meet the demand; Increased SaaS-based sales and the impact to education revenue without the company expectations for revenue changing with that shift
- 14. Meeting demand. We currently have a 4-6 week lead time to deliver classes to our customers.
- 15. Managing growth of training within a climate of cost control within the overall product business
- 16. Some revenue associated with private training events is not recognized as Education in financial reports; Insufficient number of Education sales reps.
- 17. Moving back to a revenue generating model selling training again; Increase training offerings in local languages
- 18. Organizational changes, marketing
- 19. Attachment to license; competition with other groups internally on 'knowledge sharing services' provided
- 20. Keeping up with product changes; Getting customers to take free self-paced courses
- 21. Maintaining focus on the business due to the distraction of an acquisition process; Maintaining attach rates to license sales.
- 22. No change from Q1; Getting students to take our public classes; Keeping up with content development needs.
- 23. Integrating an acquired company; Our company being acquired.
- 24. Budget, volatility
- 25. Maintenance of content with respect to our aggressive release schedule.
- 26. Impacting the Sales org to include training; Dealing with limited budgets to hire new FTEs
- 27. Getting new online mentoring program in place and fixing how people find our courses
- 28. Reduction in force, responding to shift in go to market approach
- 29. Enterprise license sales; Systems and reporting.
- 30. Inadequate funding; Resourcing training delivery
- 31. Resources; budget
- 32. Moved all e-Learning into maintenance. We are now split between a Profit/Cost Center. Compensated for the loss in e-Learning revenue with IL revenue increase.
- 33. Growing overall revenue, small year over year drop in revenue.
- 34. Resources to do the work and LMS reporting
- 35. The current systems we use to sell and track training (LMS and SFDC) are hampering our ability to easily sell and creatively package training offerings. Change management involved in moving from a free training model to a paid training model. Internal behaviors are difficult to change.
- 36. Global challenges in telecom industry; changing training delivery model to an eLearning/subscription based model
- 37. LMS maintenance/stability; Rapid elearning development due to declining ILT
- 38. Capturing top line revenue from ATCs; Training ops execution
- 39. Identifying ATPs in Asia

Please add any other comments or observations you have on the state of the IT Training market

- 1. Continue to gain some momentum with subscription sales. We've had to give away some subscriptions to get customers to engage with our training platform hope to be able to renew them for a fee in year 2 of their agreement with us.
- 2. I'm seeing more teams come at this from a Customer Success perspective, where the objective is not to run a Services team on a P&L, but to operate in a cost center or cost recovery model that supports the customer behaviors that lead to retention and expansion.

- 3. The budget for training seems to be steadily available for network security functions, especially in light of recent cybersecurity attacks.
- 4. Grey Market introduction of extremely low cost options; normally self-paced or virtual (MOOCs impacting in the market)
- 5. As a startup, we're starting to see pressure to monetize more activities in training
- 6. There is a lack of business software in the market today to grow and drive a global education business. Everything seems to be built or customized in house. LMS vendors built to service an internal audience still with main value proposition of delivery and tracking. I would be very interested in any insight to what others are using to manage their commercial business.
- 7. Many more customers expect "free basic training" with their software because they can You Tube or Google how to do many things. That is not the case with proprietary software however. Also, the perception that a 5 minute high level video can train someone to effectively use a complex, robust software that is used to run a key part or entire business is a challenge we have as an industry. We have to modernize to our learners while still keeping ourselves grounded in scientific based methods that facilitate effective learning.
- 8. Customers are moving away from Brick & Mortar classroom training.
- 9. Larger enterprise customers are more likely to invest in training.
- 10. No Change the need for more and more content. Most people do not seem to want to take long courses -c oncise, choose your own adventure type learning.
- 11. 100% remote exam proctoring in place of brick and mortar testing centers has been very well-received.
- 12. Big uptick in "just-in-time" or "contextual" training. Lots of applications with popups for "hey did you get stuck" or "hey would you like to learn a little more about this feature?" All based on a user's configuration and where they are in the application. Very interesting.
- 13. People still want ILT as a premium service and sales people try to give away too much training
- 14. With the exception of our annual customer conference, there is ZERO market for public, in-person training classes. We are 100% virtual now.