

Study: Productivity Impact of Computer Skills Training

Summary

Mentor Training conducted a study to determine the productivity impact of computer skills training. The study began in July 2009 and was completed in July 2010. 17 computer skills courses were delivered, covering eight different applications and computer basics. 68 employees participated, with computer application competencies varying from beginner to advanced. The study showed that a seven-hour computer skills training class led to an average annual time savings of 55 hours.

Methodology

Study participants were asked to complete a form before each computer skills class recording the various tasks they performed using the particular computer application. With each task the participant also lists the typical time required to complete the task as well as how often each task is performed. For example, before the Excel Level 2 class, a participant might record the following:

Table 1: Example of pre-training tasks, duration, and frequency for which Excel is used.

Task Description	Task duration	Task Frequency
Prioritize daily list of tasks	15 min	once daily
Extract numbers from monthly database export	45 min	once per month
Perform weekly workflow analysis	60 min	once per week
Weekly production report	1.5 hrs	once per week
Update monthly forecast	30 min	twice per month
Create annual budget	6 hrs	once per year

Within two weeks of the class, participants reassess the time required to perform each task applying the new skills they have learned. The amount of time saved on each task is annualized and totaled. This total represents the annual time saved as the result of applying new skills acquired from training, i.e. increased productivity.

A return on investment (ROI) was calculated for each application based upon the time invested in the class (seven hours) and the resulting annual time savings described above. The time-based training ROI was calculated as follows:

$$\text{Training ROI} = [(annual\ time\ savings) - (training\ time)] / (training\ time)$$

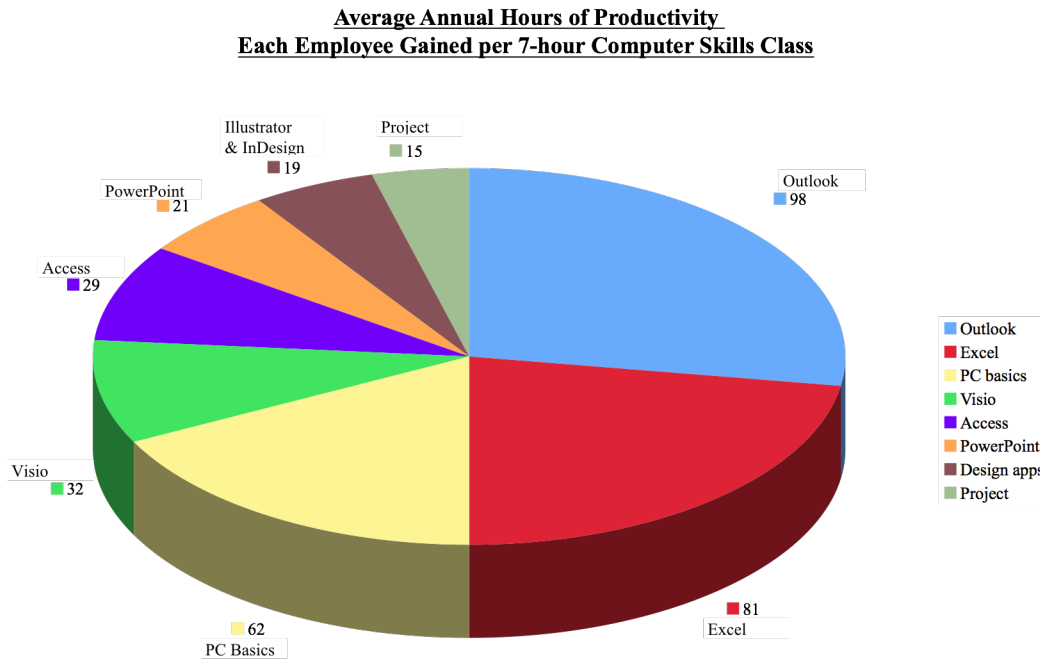
The table below summarizes the annual time savings (productivity gain) and ROI for each computer skills training class in the study as well as by application.

Table 2: Summary of time savings and ROI resulting from training for each class.

Class	Sample size	Average annual hours productivity gain	Annual return on 7-hour training investment (ROI)
Excel L1 1/28/2010	5	43.1	516%
Excel L1 7/22/2009	5	74.8	969%
Excel L2 4/8/2010	2	4.5	-36%
Excel L2 8/26/2009	5	78.0	1014%
Excel Visual Basic for Applications L2 4/22/2010	4	266.8	3711%
Excel Functions & Formulas 6/23/2010	6	23.1	230%
Excel subtotals	27	81.3	1061%
PowerPoint L2 11/18/2009	3	14.0	100%
PowerPoint Presentations 5/20/2010	3	27.5	293%
PowerPoint subtotals	6	20.8	196%
Outlook L2 9/16/2009	5	97.9	1299%
Visio L1 9/10/2009	3	32.1	359%
Access L2 9/3/2009	2	29.4	320%
MS Project L1 8/19/2009	3	9.0	29%
MS Project L1 9/17/2009	3	13.8	98%
MS Project L2 8/27/2009	5	19.9	185%
MS Project subtotals	11	15.3	118%
Basic Computers 8/13/2009	8	62.2	788%
Illustrator L1 10/22/2009	3	19.9	185%
Adobe InDesign L1 11/4/2009	3	18.0	157%
Creative Suite subtotals	6	19.0	171%

Summary for all applications combined: 68 55.0 686%

Figure 1: Average Annual Hours of Productivity Each Employee Gained per 7-hour Computer Skills Class



Conclusions

The 2009/2010 study performed by Mentor demonstrates that computer skills training increases productivity substantially. The average productivity gain by application varies from 15 to 81 hours annually, depending on the application. Correspondingly, the time-based ROI for the seven hours invested in training varies from 118% to 1061%. The overall average productivity gain from training was 55 hours annually, representing an ROI of 686%. By application and overall, the productivity gains resulting from training are significantly larger than the associated time investment.