

2014

Recording the Learning Curve during the Mastery of Glassblowing

Katie L. Corticelli

University of Rhode Island, dutcheskc@my.uri.edu

Creative Commons License



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](https://creativecommons.org/licenses/by-nc-sa/3.0/).

Follow this and additional works at: <http://digitalcommons.uri.edu/srhonorsprog>

 Part of the [Cognitive Psychology Commons](#), and the [Fine Arts Commons](#)

Recommended Citation

Corticelli, Katie L., "Recording the Learning Curve during the Mastery of Glassblowing" (2014). *Senior Honors Projects*. Paper 381.
<http://digitalcommons.uri.edu/srhonorsprog/381><http://digitalcommons.uri.edu/srhonorsprog/381>

This Article is brought to you for free and open access by the Honors Program at the University of Rhode Island at DigitalCommons@URI. It has been accepted for inclusion in Senior Honors Projects by an authorized administrator of DigitalCommons@URI. For more information, please contact digitalcommons@etal.uri.edu.

Recording the learning curve during the mastery of glassblowing

Katie Corticelli

Introduction

Shaping molten glass into three dimensional visual art is a skill that many individuals are eager to acquire. Unfortunately, aspirations are often not met due to the unclear rate of skill acquisition in glass artistry. Thus, having empirical evidence of the rate of learning would illuminate the amount of time and effort needed to spend honing this craft. The transition into the glass industry would be smoother, allowing pursuers to sooner be immersed into the valuable state of flow. Thus, our world will be privileged with more beautiful works of art for the enjoyment of humankind.

I wanted to increase preparedness by recording the learning curve of a novice glass artist. Simply defined, a learning curve is a graphical representation of the increase of Learning or Proficiency (Vertical axis) with Experience (Horizontal axis.) I monitored my own experiences as a glass artist to pursue a study that examines both qualitative and quantitative aspects of learning.

Methods

Participants/Design:

This project utilized a single-participant design through self-observation beginning with my first lampworking experience. *Lampworking* is a small-scale method of glassblowing, which is an art form where one shapes molten glass into a variety of items.



Glass Pendant
June, 2013

Materials:

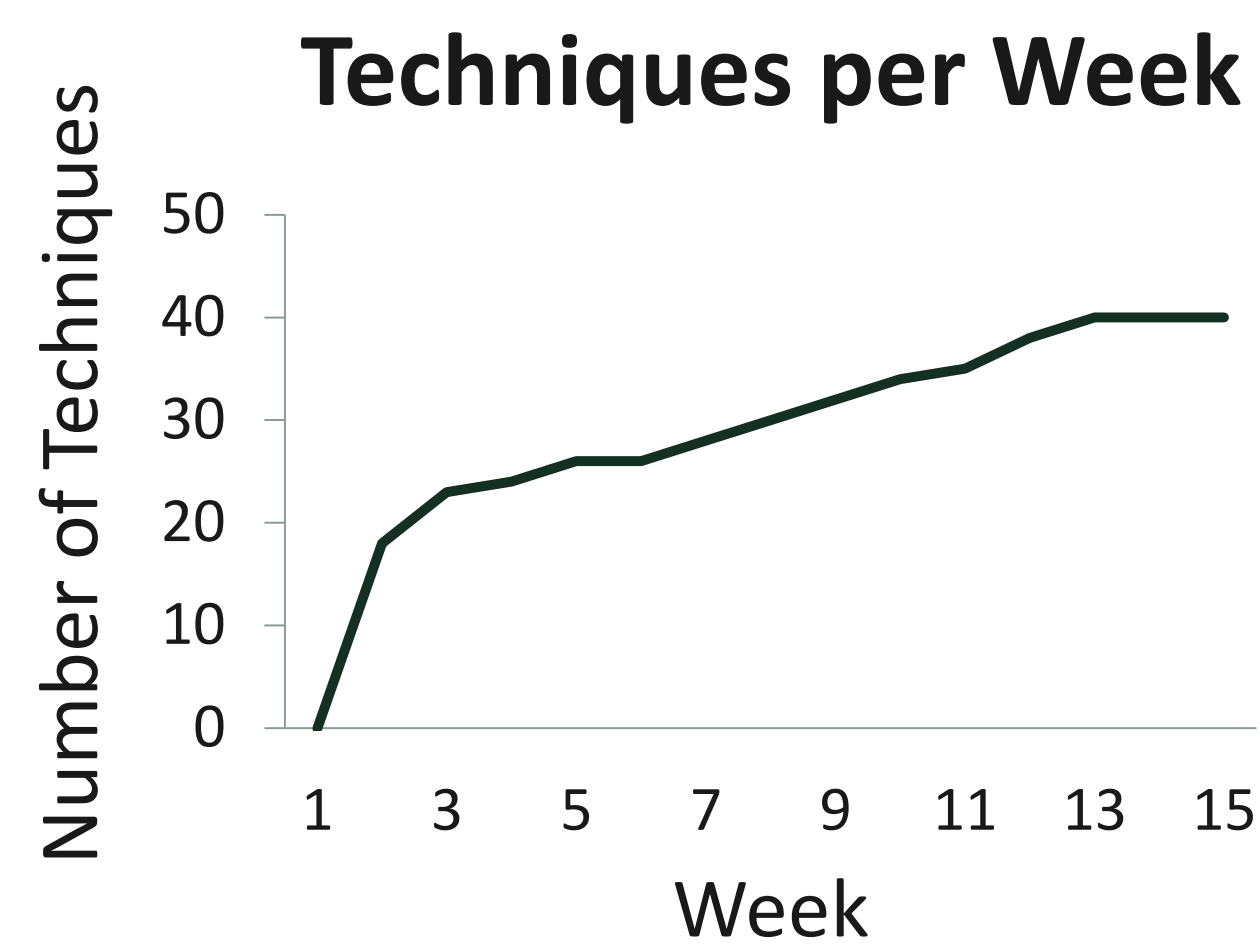
Propane and oxygen supplied a flame torch which melted borosilicate glass. Gravity, tools, and rhythmic hands worked symbiotically to shape glass rods into art.

Procedure:

I recorded my daily experiences from March 25th, 2013 to August 31st, 2013 in a detailed journal. I completed an average of 13 hours a week, with a total of 168 hours. Photographic and physical items were collected to provide a visual display of lampworking progress. To conclude my observation period, I constructed a piece of psychology-inspired artwork that incorporated my highest levels of skills at the time (see *Glass Brain*.) Structured journaling allowed me to qualitatively and quantitatively measure a cumulative increase in technique mastery which represented my progress along the learning curve.

Results

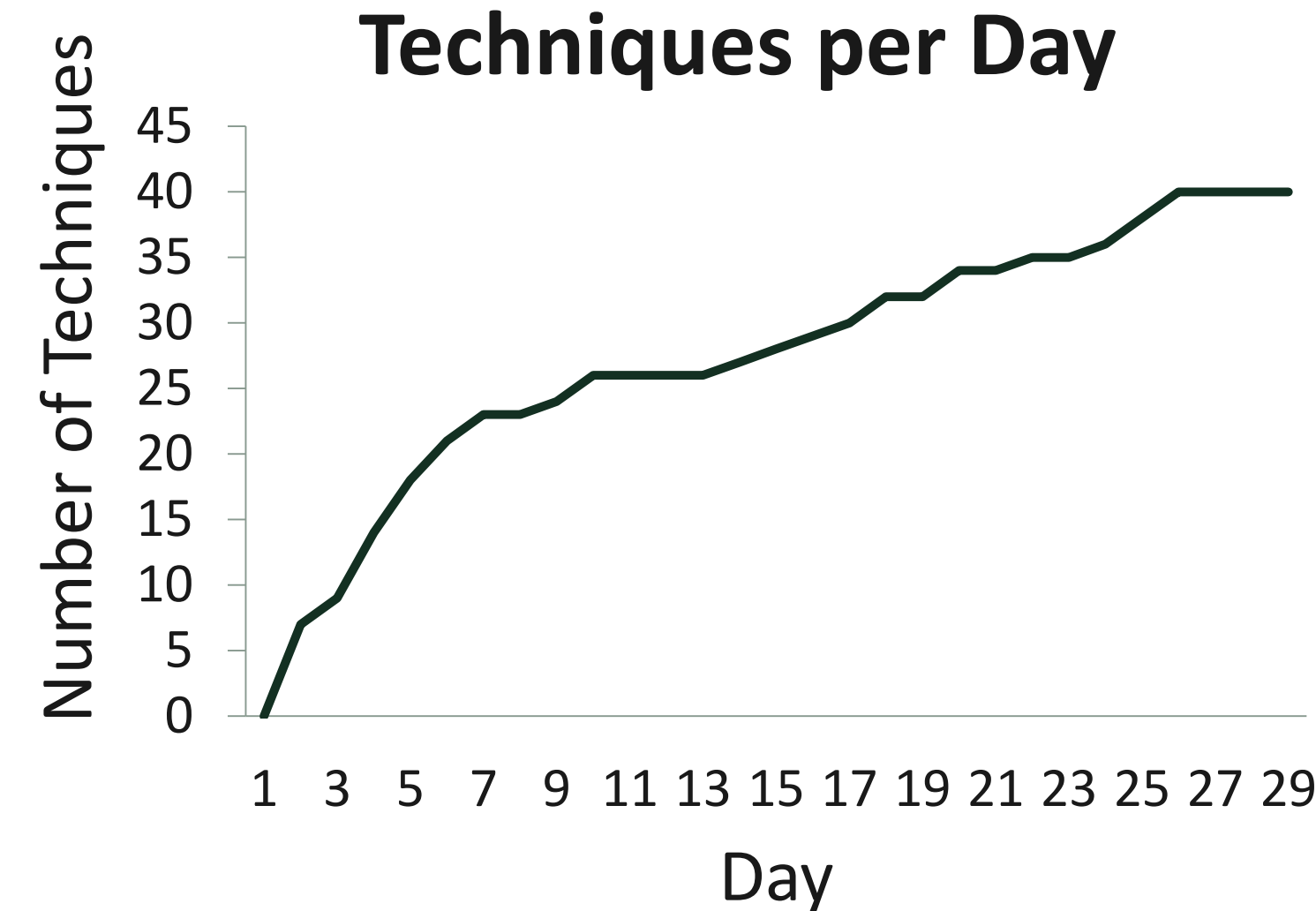
Techniques are pre-specified steps or methods to master a task that requires practice. Learning techniques involves progress from slow and effortful at the start to smooth and automatic upon mastery. As documented in my journal, some techniques progressed along this path more quickly than others. For example, attaching loops smoothly required more practice than imploding dots. The graphs below represent the cumulative amount of techniques mastered over time.



- Exponential growth during the first week
- Small increases during the following weeks



Lampworking a clear glass rod.



Discussion

With this project I sought to document the learning curve in an effort to illuminate the process for would be glass artists. Over the course of 14 weeks the number of mastered techniques increased from 0 at week 1 to 40 at week 14.



Lampworking torch melting a spiral design into glass.

Limitations:

The data on the left display only a small window of the learning curve that represents a lifetime of skill acquirement. Being a single subject design also does not account for individual differences. The average learning curve of a large sample size would provide stronger results.

Future Studies:

I recommend that future studies measure the learning curve of a large sample size over a longer period of time.

Implications:

Glassblowing requires a complex set of skills. With practice, one can observe the individual development, mastery, and automaticity of each skill during progress into glass artistry.



Glass Brain
August 2013

References

- Dunham, Bandhu Scott. *Contemporary Lampworking: A Practical Guide to Shaping Glass in the Flame*. Prescott, AZ: Salusa Glassworks, 2002. Print.
- Kao, D. (1937). Plateaus and the curve of learning in motor skill. *Psychological Monographs*, 49(3), i-94. doi:10.1037/h0093530
- "Mazur, J. E., & Hastie, R. (1978). Learning as accumulation: A reexamination of the learning curve. *Psychological Bulletin*, 85(6), 1256-1274. doi:10.1037/0033-2909.85.6.1256
- Thurstone, L. L. (1919). The learning curve equation. *Psychological Monographs*, 26(3), i-51. doi:10.1037/h0093187

Acknowledgements

A special thanks to Charles Collyer, Gregory Paquin, Edward Hauser, Jimmi Newcomb, and The University of Rhode Island Honors Program.

Funding provided by
The Honors Opportunity Fund.

