QUANTIFYING THE UNQUANTIFIABLE

by

UNCC PhD Student

A dissertation submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in
Computing and Information Systems

Charlotte

2013

Approved by:

_____

Dr. My Advisor

_____

Dr. Committee Member 1

_____

Dr. Committee Member 2

_____

Dr. Committee Member 3

_____

Dr. Committee Member 4

ABSTRACT

UNCC PHD STUDENT. Quantifying the Unquantifiable. (Under the direction of
DR. MY ADVISOR)

In this dissertation, I convince you that I should be allowed to graduate.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1: INTRODUCTION

There is a substantial body of work in HCI that guides the evaluation of productivity support tools. Shneiderman compared the growing community of researchers developing and studying creativity support tools to the earlier rise of researchers working on productivity support tools [?]. He said that researchers in CSTs are "moving from the comparatively safe territory of productivity support tools to the more risky frontier of creativity support tools." Shneiderman noted that one of the challenges that makes CST research 'risky' is that there are no obvious measures of success [?].

1.0.1   Evaluation of Creativity Support Tools

While there is an extensive history of evaluating creativity, the evaluation of tools to support creativity is a much newer field of study. As previously discussed, Shneiderman noted that the evaluation of creativity support tools is challenging because there are no obvious metrics for researchers to quantify [?].

Table 1: A summary of creativity support tools, including examples from research and industry.

| Category	Example
Visualization & Simulation	Tableau, D3, netLogo
Concept Mapping & Information Collage	combinFormation, Visio, Omnigraffle
Architectural & Design	AutoCAD, Rhino3D
Mathematics	SPSS, MatLab, WolframAlpha
Software development environments	Eclipse, Visual Studio
Video Editing	Final Cut Pro, iMovie
Drawing/Painting	Illustrator, InkScape, CorelDraw
Animation	Flash, Maya, SoftImage, Houdini
Music	GarageBand, Zya, Sequel, NodeBeat
Photography	Photoshop, Lightroom
Wikis, Blogs, & Online Presence	MediaWiki, WordPress, DreamWeaver
Writing & Presentation	Google Docs, MS Word, Prezi
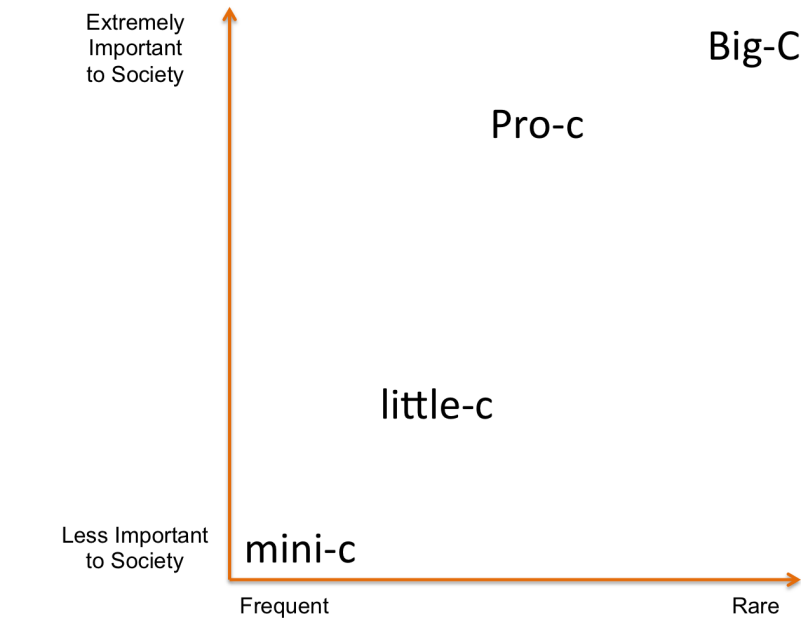
Figure 1: The creativity literature contains classifications of creative contributions across two dimensions: the Novelty-Impact space. Highly novel contributions are more rare, contributions with minimal novelty are more frequent.

CHAPTER 2: APPENDIX