**STARTING AFTER SCRATCH**

TEACHING TEXT-BASED CODING AFTER GRAPHICAL LEARNING TOOLS

A Master’s Thesis or Doctoral Dissertation Presented to the Faculty of

the Department of Computer Science

Villanova University

In Partial Fulfillment

of the Requirements for the Degree of

Master of Science in Computer Science

by Christopher Hallberg

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Under the Direction of

Vijay Gehlot, PhD

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The reference material contains a bibliography or a list of references arranged

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Scratch is the highest ranked visual programing language at 29th. http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html

1.6 Definition of Terms

# 2. Literature Review

## 2.1 Importance of K-12 Computer Science Education

President Obama on Science and Engineering in a Google+ Hangout - <http://www.youtube.com/watch?v=Ka-C7yBu_dE> – “math and scince is part of your overall educational experience, we don’t want youy to be intimidated by it.”

President Obama on Computer Programming in High School in a Google+ Hangout - <http://www.youtube.com/watch?v=PClfyIbIr5Q> -

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