

University of Pretoria

**Random Variables: A CAI tutorial in Statistics  
for distance education**

A mini-dissertation

by

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## **SAMEVATTING**

### **“Random Variables”: 'n RGO tutoriaal in Statistiek vir afstandonderrig**

'n Skripsie

deur

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Die navorsingsverslag dokumenteer die instruksionele ontwerpproses van 'n rekenaar gesteunde tutoriaal (RGT), "Random Variables", een van 'n reeks van nege soortgelyke tutoriale wat as aanvulling tot die geskrewe studiegids vir 'n eerstejaar kursus in Statistiek by die Universiteit van Suid-Afrika (Unisa) gebruik word.

Die instruksionele benadering wat in die RGT gebruik is, probeer om kognitiewe ondersteuning te verskaf en om 'n intuitiewe begrip van abstrakte konsepte aan te moedig. Die doel is om die geïsoleerdheid waarin afstandsonderrig studente verkeer, te verlig en om groter interaktiwiteit met die studiemateriaal tot stand te bring.

Formatiewe evaluering het 'n sentrale plek in die instruksionele ontwerpmodel, wat analise, ontwerp, ontwikkeling en implementering insluit, ingeneem. Die formatiewe evaluering is in vier mikro-stadia, naamlik vakkundige resensie, prototipe, loodstoetsing en veldtoetsing gedoen.

Die navorsingsresultate het daartoe gelei dat die tutoriale as sulks verbeter is. Dit kan ook verdere navorsing op die gebied van summatiewe evaluering rig en lei.

Die navorsingsverslag moet saamgelees word met die loop van die program “Random Variables”, wat op disket beskikbaar is.

## ACKNOWLEDGMENTS

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“Some fear that technology will dehumanize formal education. But anyone who has seen kids working together around a computer, the way my friends and I first did in 1968, or watched exchanges between students in classrooms separated by oceans, knows that technology can humanize the educational environment. The same technological forces that will make learning so necessary will also make it practical and enjoyable” (Bill Gates, 1995).

Here's to “The Road Ahead” (Gates, 1995) and the joy of watching our children learning with computers.

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## LIST OF ABBREVIATIONS

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<b>Unisa</b>	University of South Africa
<b>STA101-H</b>	Statistics 101 Course at Unisa
<b>CENSE</b>	Centre for Software Engineering
<b>S.A.</b>	South Africa
<b>CTI</b>	Computers in Teaching Initiative
<b>CAI</b>	Computer-Assisted Instruction
<b>CBL</b>	Computer-Based Learning
<b>CBT</b>	Computer-Based Training
<b>CATs</b>	Computer-Assisted Tutorials
<b>CBTs</b>	Computer-Based Tutorials
<b>SME</b>	Subject Matter Expert
<b>CAIE</b>	Computer-Assisted Instruction Expert
<b>L</b>	Learner
<b>R</b>	Researcher
<b>NAVO</b>	Database of S.A. theses and dissertations
<b>p.d.f.</b>	probability density function
<b>c.d.f.</b>	cumulative distribution function

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