

THE UNIVERSITY OF SUSSEX

**MEXICA: A Computer Model of
Creativity in Writing**

Submitted for the degree of D. Phil

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February, 1999

Declaration

I hereby declare that this thesis has not been submitted, either in the same or different form, to this or any other university for a degree.

Rafael Pérez y Pérez

To the memory of my mother:

Ma. Del Pilar Pérez Álvarez

**who died in México City while I was
starting this research in England, and
who taught us never to give up.**

Dedicated to my nephew and godson:

Tomás García Pérez

**who was born in México City while I
was completing this research and
whom, since he was conceived, fought
to live and never gave up.**

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Professor Mike Sharples. Mike always helped me with any problem I had, and his valuable comments, unconditional support and permanent encouragement were essential to completing my PhD.

I would like to thank:

Stephen Eglen, not only because he is a great friend, but also because he read the whole draft of this thesis and gave me important criticisms and comments about the content and my written English.

Annette Schwalbe, with whom I had the opportunity to share very special moments, and whose emotional support during the last year of this research (particularly during moments of crisis) was very important for me.

Tomás García Cerezo, Olga Orive Bellinger and Margarita Sordo, for their help in the questionnaire and printing of this work.

To all fifty persons that answered the questionnaire.

Finally, I would like to say that without the love and encouragement that my father, my sister and Tomás always have given me, I would never have been able to complete this research.

Thanks to the National Council of Science and Technology (CONACYT) in México for its sponsorship during my PhD studies concluding with this research.

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ABSTRACT

The goal of this research is to develop a computational model of the creative process of writing in terms of Engaged and Reflective States, which attempts to complement and extend previous models based on problem solving approach. The Engaged State can be described as a state in which the writer is intensely involved in the production of material related to the task. Such a production guided by tacit constraints (e.g. cultural background) relies on previous experiences and stored mental schemas, and avoids the use of deliberate planning and explicit story-structures to develop the tale. The Reflective State can be described as a state where the writer analyses and/or evaluates the current work and also deliberately explores and transforms a conceptual space. The main hypothesis of this research is that a cycle between the Engaged and Reflective States constitutes an important part of the creative process.

MEXICA is a computer model designed to study the creative process in writing in terms of the cycle of engagement and reflection. It is designed to generate short stories about the MEXICAS (also wrongly known as Aztecs). MEXICA is a flexible tool where the user can set the value of different parameters to constrain the writing process and explore different aspects of story generation.

In general terms the program consists of two main routines: the first, based on a set of previous stories defined by the user through a text file, creates a group of data-structures representing abstract story schemes in long-term memory; the second, refers to these schemes while following a cycle of engagement and reflection to create new stories.

An evaluation of MEXICA indicates that it provides a suitable framework for the study of the Engaged and Reflective States although different improvements are needed to generate full complete stories.

Contents

Declaration	ii
Acknowledgements	iv
Abstract	v
Contents	vi
List of Figures and Tables	ix
I. Introduction.	1
1.1 Writing as an Analytical Activity.	1
1.2 The Approach: engagement and reflection.	2
1.3 Outline of the Thesis.	3
II. Literature Survey	5
2.1 Some Antecedents.	5
2.2 Writers Views about Writing.	7
2.2.1 Writers' Experiences.	8
2.3 The Writing Process.	10
2.3.1 Hayes' Framework of Writing.	10
2.3.2 Story Grammars.	12
2.3.3 Writing as an Automatic Process.	14
2.3.4 High and Low Focus.	15
2.3.5 Engagement and Reflection.	16
2.4 Computer Story Generation.	16
2.4.1 SOAR.	17
2.4.2 TALE-SPIN.	18
2.4.3 MINSTREL.	20
2.4.4 GESTER.	23
2.4.5 GRANDMOTHER.	25
2.5 Some Definitions.	26
2.6 Summary.	27
III. Engagement-Reflection.	28
3.1 Sharples' Account of the Writing Process.	28
3.2 The Computer Model.	32
3.2.1 Analysis of Constraints.	33
3.2.2 Analysis of the Engaged State.	37
3.2.3 Analysis of the Reflective State.	38
3.2.4 Novelty in the Computer Model.	41
3.2.5 Operation Modes.	48
3.2.6 Conclusions.	49
3.3 Summary.	50
IV. How MEXICA Works	52
4.1 Primitive Actions.	52
4.1.1 Postconditions.	53
4.1.1.1 Emotional Links.	53
4.1.1.2 Tensions.	56
4.1.1.3 Positions.	58
4.1.2 Preconditions.	58
4.1.3 Text Generation.	60
4.2 Previous Stories.	60
4.2.1 Introducing New Characters in the Story.	61

4.2.2 Updating Working Memory.	62
4.2.2.1 Joining Postconditions.	63
4.2.2.2 Analysing Consequences (Inference Procedures).	64
4.2.3 Loading Long-Term Memory.	67
4.2.3.1 Primitive Actions Structures and Concrete Representation.	67
4.2.3.2 Abstract Representation.	67
4.2.3.3 Tensional Representation.	71
4.3 Creating a New Story.	73
4.3.1 Engaged State.	74
4.3.1.1 Bringing Possible Next Actions to Working Memory.	76
4.3.1.2 Selecting the next action.	80
4.3.2 Reflective State.	84
4.3.2.1 Checking Preconditions.	85
4.3.2.2 Breaking an Impasse.	86
4.3.2.3 Evaluating the story.	88
4.3.3. Ending a Story.	97
4.3.4 The Final Analysis.	98
4.4 Learning in MEXICA.	100
4.5 User Interface.	101
V. Analysis of MEXICA's Output	103
5.1 <i>The princess who cured the jaguar knight.</i>	103
5.2 Trace of the Story.	105
5.3 Analysis of the story.	132
5.3.1 Lack of Possible Next Actions.	133
5.3.2 The ACAS-Process and the Development of the Story.	134
5.3.3 An Example of an Action Retrieved Through the ACAS-Process.	134
5.3.4 Instantiating the Action.	136
5.3.5 Preconditions.	137
5.3.6 The Importance of Flowing.	137
5.3.7 Guidelines.	138
5.4 Modifying some of the Parameters Definable by the User.	140
5.4.1 Modifying the ACAS-Constant.	140
5.4.2 Modifying the Instantiation of Characters (Forbidden Actors).	143
5.4.3 Modifying the Operation Mode.	146
5.5 Comparing Operation Modes.	150
5.5.1 <i>The Kidnapped Tlatoani.</i>	151
5.5.2 Advantages of the ER1 (compared with ER2).	155
5.6 Inadequate Stories.	158
5.7 Summary.	161
VI. Evaluation	162
6.1 Evaluating the theory.	163
6.1.1 Production of Material during Engagement.	163
6.1.2 Engagement-Reflection Maps.	164
6.1.3 Evaluating the Stories.	168
6.1.4 The Questionnaire.	172
6.2 Evaluating the Details of the Model.	180
6.2.1 Evaluating the Creative Process in MEXICA.	180
6.2.2 Evaluating the Tensional Representation as a Way to Produce Interesting Stories.	183
6.3 Evaluation of MEXICA as a Research Tool.	184
6.4 Summary.	187

VII. Conclusions	188
7.1 Recapitulation of MEXICA.	188
7.1.1 Recapitulation of the Engaged State.	188
7.1.2 Recapitulation of the Reflective State.	189
7.1.3 Interaction between States.	190
7.1.4 The Research Tool.	191
7.2 Future Work.	191
7.2.1 Improving Existing Routines.	192
7.2.2 Adding New Routines to MEXICA.	193
7.3 Further Research.	196
7.4 Further Research on the Engagement and Reflection Theory.	197
7.5 Final Conclusion.	199
Bibliography	200
Appendix A: Syntax of Primitive Actions.	206
Appendix B: Syntax Previous Stories.	208
Appendix C: Primitive Actions To Test The Prototype	209
Appendix D: Previous Stories.	212
Appendix E: Report Of The Abstract Representation	215
Appendix F: Example: <i>The Kidnapped Tlatoani</i> .	219
Appendix G: Questionnaire	228

List of Figures and Tables

Figures

5.1	Frames of the Previous Stories	116
5.2	Comparing the Tensional Representations	118
5.3	Tensional Representation	132
6.1	Evaluation of the Narrative Flow and Coherence	174
6.2	Evaluation of the Narrative Structure	175
6.3	Evaluation of the Content	176
6.4	Evaluation of the Suspense	176
6.5	Evaluation of the Overall Quality	177
6.6	Evaluation of How Much the Stories were Liked	177
6.7	Evaluation of the Best Story	178

Tables

6.1	Nationalities and Educational Level of the Subjects that Answered the Questionnaire.	174
6.2	Comparison of Comments about Stories # 6 and # 7.	178
6.3	Relation of the Themes in the Previous Stories and Two Tales Created by MEXICA.	180

You tell me then that I must perish
like the flowers that I cherish.
Nothing remaining of my name,
nothing remembered of my fame?
But the gardens I planted still are young –
the songs I sang will still be sung!

Huéxotzin
Prince of Texcoco

Ca. 1484

(Quoted in Jennings, 1980)