

Información Importante

La Universidad de La Sabana informa que el(los) autor(es) ha(n) autorizado a usuarios internos y externos de la institución a consultar el contenido de este documento a través del Catálogo en línea de la Biblioteca y el Repositorio Institucional en la página Web de la Biblioteca, así como en las redes de información del país y del exterior con las cuales tenga convenio la Universidad de La Sabana.

Se permite la consulta a los usuarios interesados en el contenido de este documento para todos los usos que tengan finalidad académica, nunca para usos comerciales, siempre y cuando mediante la correspondiente cita bibliográfica se le de crédito al documento y a su autor.

De conformidad con lo establecido en el artículo 30 de la Ley 23 de 1982 y el artículo 11 de la Decisión Andina 351 de 1993, La Universidad de La Sabana informa que los derechos sobre los documentos son propiedad de los autores y tienen sobre su obra, entre otros, los derechos morales a que hacen referencia los mencionados artículos.

BIBLIOTECA OCTAVIO ARIZMENDI POSADA
UNIVERSIDAD DE LA SABANA
Chía - Cundinamarca

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

UNIVERSIDAD DE LA SABANA
INSTITUTO DE POSTGRADOS- FORUM

RESUMEN ANALÍTICO DE INVESTIGACIÓN (R.A.I)

ORIENTACIONES PARA SU ELABORACIÓN:

El Resumen Analítico de Investigación (RAI) debe ser elaborado en Excel según el siguiente formato registrando la información exigida de acuerdo la descripción de cada variable. Debe ser revisado por el asesor(a) del proyecto.

No.	VARIABLES	DESCRIPCIÓN DE LA VARIABLE
1	NOMBRE DEL POSTGRADO	Magister en Enseñanza de Inglés para el Aprendizaje Autodirigido
2	TÍTULO DEL PROYECTO	Incorporating the Cognitive Apprenticeship Model to Enhance Online Collaborative Learning with Chat Tool
3	AUTOR(es)	Kris Evelin Ortiz Ordoñez
4	AÑO Y MES	ago-14
5	NOMBRE DEL ASESOR(a)	Monica Rodriguez
6	DESCRIPCIÓN O ABSTRACT	<p>In Colombia, many institutions are in the firm quest of virtual environments to improve instruction. At that point, making the most of online tools appears as an option to offer quality learning. Thus, the purpose of this action research was to identify how the cognitive apprenticeship model enhances online collaborative learning by using a chat tool. To describe the effectiveness of this model, five of its teaching methods were implemented in an eight-week period of time. Twelve beginning online English students at SENA Meta, Colombia were part of this study. Their age ranged from 18 to 30 years old. Data were collected from surveys, chat transcripts, interviews and checklists. Results revealed that modeling, coaching, scaffolding, exploration and reflection may be implemented in a chatroom developing a sense of collaboration. Learners had synchronous sessions in which they shared ideas, discussed, reflected on learning, asked questions, received feedback in a timely manner; simply stated, students interacted with others while learning. Learners also moved from direct instruction (modeling) to more independent learning (articulation) assuming the roles of experts. Furthermore, the study provided recommendations for future studies.</p>
7	PALABRAS CLAVES	online collaborative learning, chat, cognitive apprenticeship model, modelling, scaffolding, reflecting
8	SECTOR ECONÓMICO AL QUE PERTENECE EL PROYECTO	Educativo
9	TIPO DE ESTUDIO	Investigación Acción
10	OBJETIVO GENERAL	How does the cognitive apprenticeship model enhance online collaborative learning with a chat tool in a group of young adult English students at SENA?

**INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL**

11	OBJETIVOS ESPECÍFICOS	<ul style="list-style-type: none"> - To identify how the cognitive apprenticeship model enhances online collaboration by using chat tool - To describe the effectiveness of cognitive apprenticeship on creating a sense of collaboration using a chat tool - To recognize students and instructors' roles throughout cognitive apprenticeship performed online
12	RESUMEN GENERAL	<p>Technology is dramatically changing the way students are educated. Currently, virtual worlds offer engaging and stimulating spaces where students can meet online for regular classes. Institutions willing to incorporate technology in educational settings face the challenge of integrating tools that improve learning environments no matter who or where the students are. Technology allows users to carry out tasks that could be difficult in the real world due to constraints, such as cost, scheduling or location. The activities students engage online include live sessions, rich media presentations, and web-based workshops, emailing and chatting.</p> <p>In Colombia, many institutions are working towards offering suitable environments for online instruction. For instance, to respond to its main goals of strengthening the human capital in the country, contributing to the development of professionals of different areas of knowledge and offering better access and more job opportunities, the National Training Service (SENA), a national institution that offers tertiary education, has incorporated the Blackboard Collaborate platform to offer online courses including those for foreign languages. Regrettably, a survey completed by twelve English as a Foreign language students showed that in terms of online language learning there is a gap between what students learn, and how they practice and receive feedback using the virtual tools in the platform.</p> <p>Students manifested in the diagnostic survey that they do not take full advantage of online tools. Teachers use the components of the platform to administer schedules, grades, and technical support while students develop some tasks via some online tools like forums, wikis and/or blogs. Students have asynchronous interaction with their peers by posting answers to tasks or asking questions via technical forums. The result is SENA English language students are aware of some grammatical rules and vocabulary in English but lack synchronous interaction to use what they have learned what they learn. SENA's online courses do not fully utilize the power of e-learning which could bring students together in meaningful communicative environments; rather, students are relegated to work with a computer, but not with other learners synchronously, thus maximizing the tools that Blackboard Collaborate provides. Online courses are spreading and the curriculum is determined by the conception SENA teachers have about teaching and learning in virtual environments. The English department guidelines state that in order to provide instruction, teachers should promote synchronous interaction in such a way that students use the foreign language spontaneously as the SENA standards state</p> <p>The diagnostic survey showed some problems on how online learning occurred. First, social interaction manifested in peer collaboration in most of the cases was reduced. Second, students expressed feelings of isolation and demotivation due to the lack of immediate feedback, spontaneous language use, timely support and elimination of peer-to-peer learning. Third, the questions students asked were not always answered which made feedback not so effective. For instance, students waited an average of six hours for responses to their posts. SENA students mentioned the situations described above as reasons for</p>

**INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL**

		<p>dropping of online courses which is evident in the low demand these courses have nowadays.</p> <p>In consequence, the researcher studied how the incorporation of the Cognitive Apprenticeship Model enhances online collaborative learning with a chat tool. Enhancing collaboration with this tool offers opportunities for meaningful and synchronous interaction among students which may result in their having more chances to deepen their learning experience, test out new ideas, and receive critical and constructive feedback (Picciano, 2002).</p> <p>This research may benefit participants in the SENA online courses by offering new strategies in the delivery of instruction, live group learning, immediate feedback, different types of interaction, and timely and accurate support in a chat room making the most of Blackboard Collaborate to enhance online collaboration.</p>
<p style="text-align: center;">13</p>	<p style="text-align: center;">CONCLUSIONES.</p>	<p>Enhancing collaboration when learning in virtual environments is not always an easy task. This research demonstrates that by incorporating the CAM, students work together to reach a common goal. In this specific study, SENA students found that a chat tool, besides offering a space for social activity, was a suitable place for sharing ideas, discussing, reflecting on learning, asking questions, and receiving feedback. In simple words, chat was useful to interact with others while learning.</p> <p>The implemented CAM teaching methods included games, reflections, interviews, information gap and problem solving. Performing a variety of activities improves students' sense of collaboration. They start by seeing a model which gives them confidence. Later they know they can rely on their peers to practice and receive feedback. At the end, they have criteria to reflect and act upon their learning process.</p> <p>Using the chat for educational purposes offers synchronous communication for learners to receive timely support. In consequence, learners improve performance through collaborative learning.</p> <p>Creating a sense of social presence online is effective when incorporating CAM. Feelings of isolation and demotivation turn into engagement in activities and motivation. Students are responsible for their learning by working with others in such a way that language knowledge is deepened.</p> <p>Another key aspect refers to the different roles instructors and students assume. Students may be models, coaches, guides or experts in online learning. First, they will be responsible for demonstrating a task explicitly, then they will guide peers for improving performance, and finally, they become experts which facilitates a gradual withdrawal of instructor from the process.</p> <p>Self-reflection in online environments occurs when collaboration is enhanced through CAM. The mediation of computer communication via chat tool provides a bridge for self-reflective practices supported by synchronous interaction. Students can learn from others and think of their own strategies. For example, they can infer best practices and adjust to their own learning process.</p>
<p style="text-align: center;">14</p>	<p style="text-align: center;">FUENTES BIBLIOGRÁFICAS</p>	<p>Anderson, T., & Dron, J. (2007). Groups, Networks and Collectives in Social Software for E-learning. Paper presented at 2007 European Conference on E-Learning, Copenhagen.</p> <p>Antenos-Conforti, E. (2009). Microblogging on Twitter: Social Networking in Intermediate Italian Classes. <i>The Next Generation: Social Networking and Online Collaboration in Foreign Language Learning</i>. Eds. L. Lomicka and G. Lord. Texas: CALICO.</p> <p>Aziz, G. (2003). Cognitive Apprenticeship, Technology, and the Contextualization of Learning Environments. <i>Journal of Educational Computing. Design & Online Learning</i>. Vol. 4, 2003.</p> <p>Beldarrain, Y. (2006). <i>Distance Education Trends: Integrating New</i></p>

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Technologies to Foster Student Interaction and Collaboration. *Distance Education*, 27(2) (pp. 139-153). Brandes, G.M., & Boskic, N. (2008). Eportfolios: From Description to Analysis. *International Review of Research in Open and Distance Learning*, 9(2), 1-17. Retrieved from ERIC.

Brandes, G.M., & Boskic, N. (2008). Eportfolios: From Description to Analysis. *International Review of Research in Open and Distance Learning*, 9(2), 1-17. Retrieved from ERIC.

Brindley, J., Walti, C., Blaschke, L. (2009). Creating Effective Collaborative Learning Groups in an Online Environment. *International Review of Research in Open and Distance Learning*. Vol 3, 10.

Brown, S. W., & King, F. B. (2000). Constructivist Pedagogy and How we Learn: Educational Psychology Meets International Studies. *International Studies Perspectives*, 1(3), 245-255.

Carter, R., and Nunan, D. (2001). *The Cambridge Guide to Teaching English to Speakers of Other Languages*. Cambridge: Cambridge University Press.

Chiong, R and Jovanovic, J. (2012). Collaborative Learning in Online Study Groups: An Evolutionary Game Theory Perspective. *Journal of Information Technology Education: Research*. Vol 11.

Collins, A., Brown, J. S., & Newman, S. E. (1987). *Cognitive Apprenticeship: Teaching the Craft of Reading, Writing and Mathematics* (Technical Report No. 403). BBN Laboratories, Cambridge, MA. Centre for the Study of Reading, University of Illinois.

Dennen, V. P., Burner, K. J. (2008) *The Cognitive Apprenticeship Model in Educational Practice*. Florida: Florida State University

Dillenbourg, P. (1999). *Collaborative Learning: Cognitive and Computational Approaches*. *Advances in Learning and Instruction Series*. New York, NY: Elsevier Science, Inc.

Dudney, G. (2007). *The Internet and the Language Classroom*. Cambridge: Cambridge University Press.

Espitia, M. and Cruz, C. (2013). Peer Feedback and Online Interaction: A Case Study. *Ikala*. Medellin.

Gall, M. D., Gall, J. P., and Borg, W. R. (2007). *Educational Research: An Introduction*. (8th edition). Boston: Pearson/Allyn & Bacon.

Jonassen, D. H. (2004). *Handbook of Research on Educational Communications and Technology*. New Jersey: Lawrence Erlbaum Associates.

Kessler, G. (2009). Student-Initiated Attention to Form in Wiki-based Collaborative Writing. *Language Learning & Technology*, 13(1), 79–95. Retrieved from <http://lt.msu.edu/vol13num1/kessler.pdf>

Kim, E, Park, S, and Baek, S. (2011). Twitter and Implications for its Use in EFL Learning. *Multimedia-Assisted Language Learning*, 14(2), 113-137.

Kvale, S. (1996). *Interviews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA: Sage.

Laal, M., Ghodsi, S. M. (2012). Benefits of Collaborative Learning. *Procedia. Social and Behavioral Sciences*. Volume 31, 486-490. Retrieved from: www.sciencedirect.com August, 2014

Liu, T.-C. (2005). Web-based Cognitive Apprenticeship Model for Improving Pre-service Teachers' Performances and Attitudes towards Instructional Planning: Design and Field Experiment. *Educational Technology & Society*, 8 (2), 136-149.

Mills, G. (2003) *Action Research: A Guide for the Teacher Researcher*. Oregon: Pearson.

Oppenheim, A.N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter Publishers.

Palloff, R. M., and Pratt, K. (2005). *Collaborating Online: Learning Together in Community*. San Francisco, CA: Jossey-Bass.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Pelletieri, J. (2000). Negotiation in Cyberspace: The Role of Chatting in the Development of Grammatical Competence. In M. Warschauer & R. Kern (Eds.) *Network-based language teaching: Concepts and practice* (pp. 59-86). Cambridge: Cambridge University Press.

Picciano, A. G. (2002). Blended Learning Implication for Growth and Access. *Journal of Asynchronous Learning Networks*, 10, 3.

Popovici, D (2012). The Role of Reflection in Online Learning. Sunday, January 29, 2012. Retrieved from: <http://poppins-upsydaisy.blogspot.com/2012/01/role-of-reflection-in-online-learning.html>

Rajesh, R (2009). *Cognitive Development in English Language Teaching*. Bangalore: Lulu Press Inc.

Richardson, W. (2006). *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms*. London: Corwin Press.

Ritchie, J. and Spencer, E. (1994) *Qualitative Data Analysis for Applied Policy Research*. In, Bryman, A. and Burgess, R.G. (eds.) *Analyzing Qualitative Data*. (pp. 25-47). London: Routledge.

Rourke, L., T. Anderson, D. R. Garrison & W. Archer. (2001). Assessing Social Presence in Asynchronous Text-based Computer Conferencing. *Journal of Distance Education*, 14(2).

Rovai, A.P. (2002). A preliminary Look at Structural Differences in Sense of Classroom Community between Higher Educational Traditional and ALN Courses. *Journal of Asynchronous Learning Networks* 6, 1-13.

Russell, A. Cohen, L. (1997). The Reflective Colleague in E-mail Cyberspace: A Means for Improving University Instruction. *Computers & Education*, 29(4), 137-145.

Russell, G. M., and Kelly, N. H. (2002). Research as Interacting Dialogic Processes: Implications for Reflectivity. *Forum Qualitative Sozialforschung*, 3(3). Retrieved from <http://www.qualitative-research.net/index.php/fqs/article/view/831/1807>

Siemens, G. (2002). *Interaction. E-Learning Course*. October 8, 2002. Retrieved August 7, 2014, from <http://www.elearnspace.org/Articles/Interaction.htm>

Skinner, B., and Austin, R. (1999). Computer conferencing: Does it Motivate EFL Students. *ELT Journal*, 53 (4), 270-279.

So, J. and Brush, T. A. (2008). Student Perceptions of Collaborative Learning, Social Presence and Satisfaction in a Blended Learning Environment: Relationships and Critical Factors. *Computers & Education*, Vol 51, 318-336.

Spector, J, Merrill, M, Merrienboer, J and Driscoll, M. (2008). *Handbook of Research on Educational Communications and Technology*. New York: Taylor and Francis.

Vygotsky, L. (1978). *Interaction between Learning and Development. From Mind and Society*. Cambridge, MA: Harvard University Press.

Wallace, M. (1996). *Action Research for Language Teachers*. Cambridge: Cambridge University Press.

Warschauer, M., and Meskill, C. (2000). *Technology and Second Language Learning*. Mahwah, New Jersey: Lawrence Erlbaum.

Waste, J.A and Waste, M.L. (2008). *Using Wikis for Online Collaboration: The Power of the Read-Write Web*. San Francisco: Jossey-Bass

Vo Bo Asesor y Coordinador de Investigación:

MONICA RODRIGUEZ

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Kris Evelin Ortiz Ordoñez

Research Report Submitted in partial fulfillment of the requirements for the degree of
Master in Language Teaching for Self-Directed Learning

Directed by: Monica Rodriguez

Department of Foreign Languages and Cultures

Universidad de La Sabana

Chía, Colombia

August, 2014

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Declaration

I hereby declare that my research report entitled:

Incorporating the Cognitive Apprenticeship Model to Enhance Online Collaborative Learning with Chat Tool

- is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared and specified in the text;
- is neither substantially the same as nor contains substantial portions of any similar work submitted or that is being concurrently submitted for any degree or diploma or other qualification at the Universidad de La Sabana or any other university or similar institution except as declared and specified in the text;
- complies with the word limits and other requirements stipulated by the Research Subcommittee of the Department of Foreign Languages and Cultures;
- has been submitted by or on the required submission date.



Kris Evelin Ortiz Ordoñez

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Acknowledgement

This research paper was made possible above all thanks to God who inspired me to finish the master's degree program. Additionally, I would like to sincerely thank everyone: parents, teachers, family, administrators, and in essence, all sentient beings who in anyway have contributed to the overall success of the undertaking:

Dr. Monica Rodriguez my advisor, for providing her experience, her patient guidance, advice and for sharing her precious time to guide the current research.

Unisabana professors and classmates for supporting me during these two years. Special thanks to Prof. Claudia Acero for her advice, knowledge and many insightful discussions and suggestions.

SENA administrative staff, students and instructors. Special gratitude to Dr. Enrique Cardenas for his input, valuable discussions and acceptance to research about SENA online platforms.

Finally, I sincerely thank my parents, family, and friends, who provided the advice and financial support. The product of this research paper would not have been possible without them.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Abstract

In Colombia, many institutions are in the firm quest of virtual environments to improve instruction. At that point, making the most of online tools appears as an option to offer quality learning. Thus, the purpose of this action research was to identify how the cognitive apprenticeship model enhances online collaborative learning by using a chat tool. To describe the effectiveness of this model, five of its teaching methods were implemented in an eight-week period of time. Twelve beginning online English students at SENA Meta, Colombia were part of this study. Their age ranged from 18 to 30 years old. Data were collected from surveys, chat transcripts, interviews and checklists. Results revealed that modeling, coaching, scaffolding, exploration and reflection may be implemented in a chatroom developing a sense of collaboration. Learners had synchronous sessions in which they shared ideas, discussed, reflected on learning, asked questions, received feedback in a timely manner; simply stated, students interacted with others while learning. Learners also moved from direct instruction (modeling) to more independent learning (articulation) assuming the roles of experts. Furthermore, the study provided recommendations for future studies.

Key words: *online collaborative learning, chat, cognitive apprenticeship model, modelling, scaffolding, reflecting*

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Resumen

En Colombia, muchas instituciones están en la firme búsqueda de entornos virtuales para mejorar la instrucción. En ese momento, el máximo aprovechamiento de las herramientas en línea aparece como una opción para ofrecer aprendizaje de calidad. Así, el propósito de esta investigación fue identificar cómo el modelo de aprendizaje cognitivo mejora el aprendizaje colaborativo en línea usando una herramienta de chat. Para describir la efectividad de este modelo, cinco de sus métodos de enseñanza se implementaron en un período de ocho semanas. Doce estudiantes de inglés en línea pertenecientes al SENA de la regional Meta en Colombia formaron parte de este estudio. Su edad oscilaba entre 18 y 30 años. Se recopilaron datos de encuestas, transcripciones de chat, entrevistas y listas de verificación. Los resultados revelaron que modelar, coaching, escalonamiento, exploración y reflexión pueden aplicarse en un chat para desarrollar un sentido de colaboración. Los estudiantes tuvieron sesiones sincrónicas donde compartieron y discutieron ideas, reflexionaron sobre su aprendizaje, hicieron preguntas y recibieron retroalimentación de manera oportuna; en palabras simples, los estudiantes pudieron interactuar con otros mientras aprendían. Los estudiantes también pasaron de la instrucción directa (modelado) al aprendizaje más independiente (articulación) asumiendo el papel de expertos. Adicional a esto, el estudio proporcionó recomendaciones para futuros estudios.

Palabras clave: *aprendizaje colaborativo en línea, chat, modelo de aprendizaje cognitivo, aprendizaje auto-dirigido, modelado, escalonamiento, reflexión.*

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Table of Contents

Abstract.....	1
Introduction	7
Research Question	9
Research Objectives.....	9
Theoretical Framework	10
Online Collaborative Learning	10
Blackboard Collaborate	111
Chat Tool	144
Interaction in Online Collaborative Learning	155
Cognitive Apprenticeship Model.....	177
Research Design	211
Type of Study.....	21
Context.....	233
Participants.....	254
Ethical Considerations	265
Data Collection Instruments	266
Pedagogical Intervention and Implementation	2727
Instructional Design.....	27
Implementation	28

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Results and Data Analysis	343
Data Analysis Before Implementation	33
Survey	365
Data Analysis During Implementation:	36
Chat Transcript Results	36
Students' Checklist Results	38
Data Analysis After Implementation	410
Interview	40
Conclusions and Pedagogical Implications	4342
Conclusions	42
Pedagogical Implications	4443
Further Research	4544
Limitations	44
References	45
Appendices	49
Appendix 1 Consent Letter	50
Appendix 2 – Students' Survey	51
Appendix 3 Students' Interview	52
Appendix 4 Self-Assessment Checklist	53
Appendix 5 Sample of chat transcripts	5854
Appendix 6 Worksheets Modeling Activity	55

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Information Gap Activity: Getting to know you.....	56
Appendix 7 Worksheet Coaching Activity	57
Appendix 8 Worksheets Scaffolding Activity	58
Appendix 8 Mind Map Self-reflection Activity	59

Table of Figures

Figure 1. Blackboard Collaborate Tools.....	12
Figure 2. Blackboard Collaborate – Chatroom.....	13
Figure 3. Relationships between Interaction and Learning in Online Environments.....	16
Figure 4. Cognitive Apprenticeship Model.....	18
Figure 5. Research Process.....	23
Figure 6. SENA’s Language Course – English Dot Works	24
Figure 7. Blackboard Collaborate – Real-Time Lessons and Discussions.....	27
Figure 8. Collaboration with Chat Tool.....	28
Figure 9. Roles of Cognitive Apprenticeship Model through Chat.....	29

Table of Tables

Table 1. Standards Beginners	11
Table 2. Pedagogical Implementation: Modeling.....	32
Table 3. Pedagogical Implementation: Coaching.....	33

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Table 4. Pedagogical Implementation: Scaffolding.....	33
Table 5. Pedagogical Implementation: Articulation.....	34
Table 6. Pedagogical Implementation: Reflection	34
Table 7. Data Collection Tools.....	38
Table 8. Survey Analysis.....	38
Table 9. Chat Analysis.....	39
Table 10. Checklist Percentage of Satisfaction.....	42
Table 11. Interview Analysis.....	44

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Introduction

Technology is dramatically changing the way students are educated. Currently, virtual worlds offer engaging and stimulating spaces where students can meet online for regular classes. Institutions willing to incorporate technology in educational settings face the challenge of integrating tools that improve learning environments no matter who or where the students are. Technology allows users to carry out tasks that could be difficult in the real world due to constraints, such as cost, scheduling or location. The activities students engage online include live sessions, rich media presentations, and web-based workshops, emailing and chatting.

In Colombia, many institutions are working towards offering suitable environments for online instruction. For instance, to respond to its main goals of strengthening the human capital in the country, contributing to the development of professionals of different areas of knowledge and offering better access and more job opportunities, the National Training Service (SENA), a national institution that offers tertiary education, has incorporated the Blackboard Collaborate platform to offer online courses including those for foreign languages. Regrettably, a survey completed by twelve English as a Foreign language students showed that in terms of online language learning there is a gap between what students learn, and how they practice and receive feedback using the virtual tools in the platform.

Students manifested in the diagnostic survey that they do not take full advantage of online tools. Teachers use the components of the platform to administer schedules, grades, and technical support while students develop some tasks via some online tools like forums, wikis and/or blogs. Students have asynchronous interaction with their peers by posting answers to tasks or asking questions via technical forums. The result is

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

SENA English language students are aware of some grammatical rules and vocabulary in English but lack synchronous interaction to use what they have learned what they learn. SENAs online courses do not fully utilize the power of e-learning which could bring students together in meaningful communicative environments; rather, students are relegated to work with a computer, but not with other learners synchronously, thus maximizing the tools that Blackboard Collaborate provides.

Online courses are spreading and the curriculum is determined by the conception SENAs teachers have about teaching and learning in virtual environments. The English department guidelines state that in order to provide instruction, teachers should promote synchronous interaction in such a way that students use the foreign language spontaneously as the SENAs standards state (See table 1).

Table 1. Competences - Beginners

Competence: Interact in English starting from verbal formulas and in agreement with the requirements of daily communication
<i>Learning Outcome 1:</i> Recognize and describe the family members taking into account their likes.
<i>Learning Outcome 2:</i> Express likes and preferences taking into account the context.
<i>Learning Outcome 3:</i> Share personal information and make questions to someone following the studied structure.
<i>Learning Outcome 4:</i> Describe a person's look and physical characteristics taking into consideration the grammatical structures

The diagnostic survey showed some problems on how online learning occurred. First, social interaction manifested in peer collaboration in most of the cases was reduced. Second, students expressed feelings of isolation and demotivation due to the lack of immediate feedback, spontaneous language use, timely support and elimination

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

of peer-to-peer learning. Third, the questions students asked were not always answered which made feedback not so effective. For instance, students waited an average of six hours for responses to their posts. SENA students mentioned the situations described above as reasons for dropping of online courses which is evident in the low demand these courses have nowadays.

In consequence, the researcher studied how the incorporation of the Cognitive Apprenticeship Model enhances online collaborative learning with a chat tool. Enhancing collaboration with this tool offers opportunities for meaningful and synchronous interaction among students which may result in their having more chances to deepen their learning experience, test out new ideas, and receive critical and constructive feedback (Picciano, 2002).

This research may benefit participants in the SENA online courses by offering new strategies in the delivery of instruction, live group learning, immediate feedback, different types of interaction, and timely and accurate support in a chat room making the most of Blackboard Collaborate to enhance online collaboration.

Research Question

How does the cognitive apprenticeship model enhance online collaborative learning with a chat tool in a group of young adult English students at SENA?

Research Objectives

- To identify how the cognitive apprenticeship model enhances online collaboration by using chat tool
- To describe the effectiveness of cognitive apprenticeship on creating a sense of collaboration using a chat tool

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

- To recognize students and instructors' roles throughout cognitive apprenticeship performed online

Theoretical Framework

This chapter presents some theoretical foundations, concepts and a state of the art in light of online learning and interaction in virtual environments. Enhancing online collaborative learning with chat tools considers three main constructs, namely the cognitive apprenticeship model, online collaborative learning, and chat.

Online Collaborative Learning

The advent of new technologies has led teaching approaches to change. Learning in the digital age emphasizes on interaction in virtual environments among many people around the world. Brindley, Walti and Blaschke (2009) affirm individual knowledge occurs through interaction which is the way how people can express their thoughts, discuss and challenge the ideas of others, work together towards a group solution to a given problem, develop critical thinking skills as well as skills for self-reflection. In this way, people collaborate to create knowledge and co-construct knowledge and meaning; in fact the Web has evolved offering new opportunities for collaboration, online interaction and therefore, learning (Richardson, 2006).

Collaboration in learning environments is viewed as “people sharing ideas and working together (occasionally sharing resources) in a loose environment” (Siemens, 2002, pp.23). In this research, learners worked together developing communicative tasks. Online learning implies a sense of collaboration among users since they “share, transmit knowledge or work towards common goals” (Brindley, Walti and Blaschke,

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

2009, p.4). In this specific research, SENA students may have a better learning experience if collaboration is truly enhanced by providing opportunities for them to participate in synchronous discussions, exchange of information, and peer feedback. All in all, cooperative learning “refers to an instruction method in which learners at various performance levels work together in small groups toward a common goal” (Laal & Ghodsi, 2011, p. 487).

Online learning is participatory, authentic, immediate, and engaging (Antenos-Conforti, 2009). These features are relevant because learning is a socially situated activity, and the building of social relationships is vital for cognitive development. Much of the cognitive potential resides in the ability to effectively assimilate into some level of social acceptance or recognition. Therefore, the establishment of appropriate environments on a social level is relevant when promoting active cognitive development in a healthy and productive manner. Conversely, cognitive improvement contributes to the development of social including language use in communicative situations that usher in the students’ cognition to acquire language through their insights and problem solving capacity (Rajesh, 2009).

Blackboard Collaborate

The collaborative learning environment at SENA is presented through the Blackboard Collaborate platform. This platform provides different types of tools that offer participants various options to collaborate with one another. Figure 1 shows some of these tools and their definition.

This research was focused on the chat tool since it was not being used in the online English class. The chat room at SENA is used to post messages about the class which are not limited in the number of characters that can be used. Chat participants

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

may write what they want and reply to other classmates' comments. However, chat tool offers various opportunities for learning as it will be explained in the implementation section.

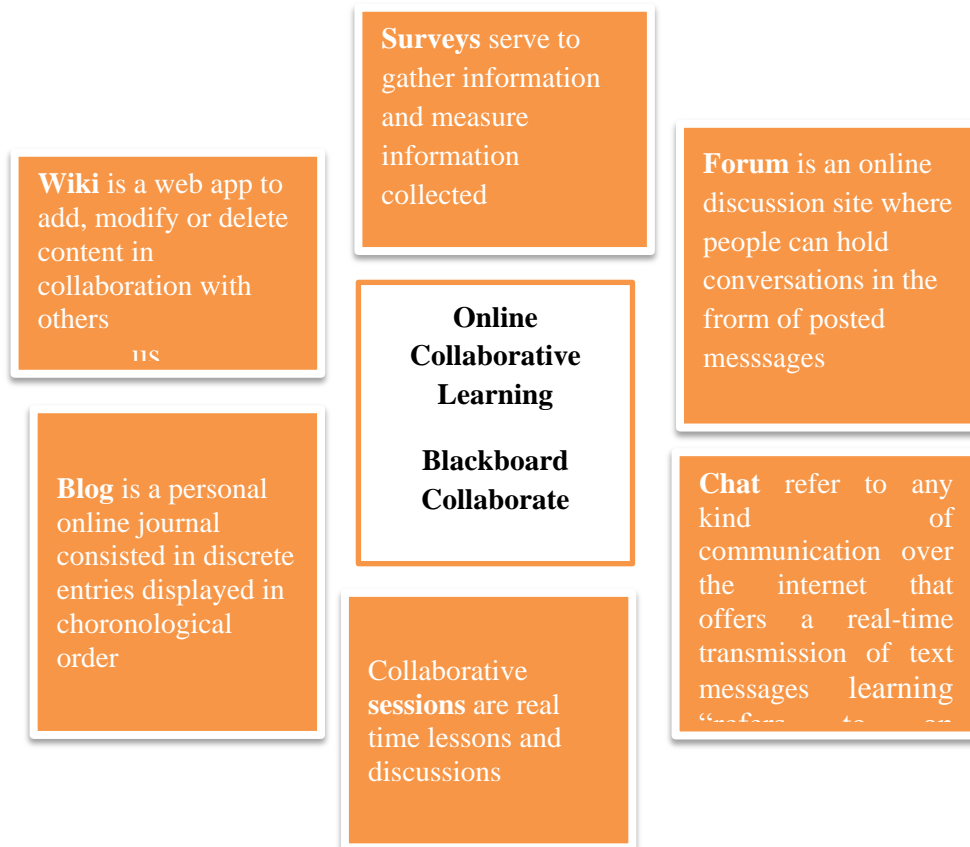


Figure 1. Blackboard Collaborate Tools

Figure 2 shows Blackboard's layout and how chat room has several interactive features. On the left side of the figure, one finds the instructor's picture, camera, participants' names, and emoticons; these features bring the participants closer together socially, which promotes an open, relaxed interaction. On the right side, one finds the options for teaching which include tools to post presentations, options for grouping and recording students. The grouping option and recording were widely used in the current research in order to analyze both students' and teachers' interaction. At the bottom of

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

the page, one finds the message board. All the options the chat room offers let the researcher find strategies to maximize the learning experience when using this tool.

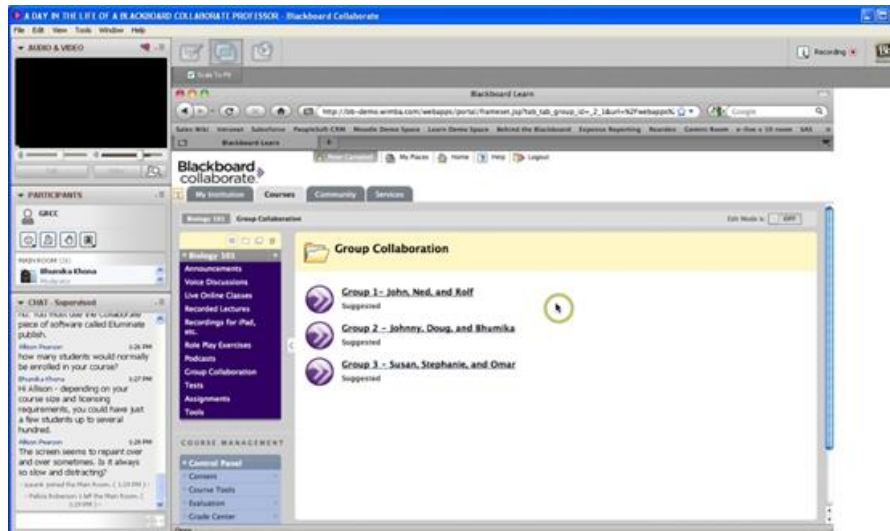


Figure 2. Blackboard Collaborate - Chatroom

Some researchers have studied the perceptions of collaborative learning in online learning. So and Brush (2008) studied the advantages of online learning in a blended course. The authors asked participants to take a blended course and record their perceptions about collaboration. Results demonstrated that students who perceived high collaboration were more satisfied with the course and the social presence of instructor and classmates in it.

Analysis of online learning environments have also led some researchers like Chiong and Jovanovic (2012) to analyze the reasons for which some students decide not to participate or reduce their participation level when working in groups. The strategy consisted in analyzing students' reactions towards group work through the development of some collaborative tasks. Results showed that there are several challenges when working to foster online collaborative learning mainly in terms of time constraints and/or

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

reluctance to work in groups. Nevertheless, these constraints could be overcome by remixing study groups and monitoring students permanently.

Another example of students' collaboration with peers in online environments is a study of social networks by Kim, Park and Baek (2011). The research aimed at exploring the use of micro blogging in language learning through Twitter and how it could provide a venue for communicating in the target language with other people even outside classrooms by participating in a second language community. From the findings, they concluded that tweets provided convincing evidence to stimulate EFL learners to promote their foreign language output and helped them maintain social interaction with other users using target language regardless of grade levels. Although this research was focused on Twitter, it provides some evidence on how online collaboration improves students' output by means of language use.

Chat Tool

Dudney (2007) defines the term chat as "synchronous (i.e. realtime) communication between two or more people, using the keyboard as a means of communication." (p, 130). One of the aspects that make chat a natural space for communication and interaction is that it simulates a normal conversation in which people express themselves, asking and answering questions in a synchronous and informal manner.

Some research has been conducted on how to apply chat tool in educational settings. Skinner and Austin (1999) and Koike (2000) in Warschauer and Meskill (2000) argue that students want learning experiences that are social and connect them with their peers through the Web. Skinner and Austin developed a study whose procedure included a prewriting activity using synchronous chat to communicate.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Participants accepted the challenge to communicate via chat. Results indicated that chats helped students to interact as well as reducing negative feelings like anxiety, apprehension and nervousness which are commonly expressed by second/foreign language learners when interacting in normal classes.

Koike's study offered a blended learning course during which students had the chance to practice what they had learned in an international chat interchange with native speakers. The results showed that using the computer allowed more "reserved" students a greater opportunity to actively participate as they participated in discussions, search for information, and exchange opinions with their peers. Additionally, after the analysis of the chat recordings, the researcher concluded that students wrote much more via computer than using pen and paper; they also paid closely attention to the messages they read and wrote since they were part of meaningful communication.

Both studies demonstrate how twenty-first century students are now demanding online instruction that supports participation and interaction instead of lectures or one-way communications (Waste & Waste, 2008). They expect activities and content to be relevant to the real world. Therefore, activities that promote interaction and collaboration with their peers are becoming an integral part of the curriculum.

Interaction in Online Collaborative Learning

Collaboration occurs if opportunities for different types of interaction are given. Interaction has long been identified as a key element to successful online learning programs (Beldarrain, 2006). There is significant evidence to suggest that meaningful interaction with other students and the instructor is integral to the development of learning environments.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Espitia and Cruz (2013) conducted a research that had as a main objective to analyze peer feedback and online interaction among university students. The researchers were focused on promoting collaboration in the course throughout the implementation of learners' participation in forums. The strategy consisted in asking students to provide feedback to their peers throughout a message in the forum tool. After analyzing students' engagement in the activity, they realized that through that activity students could establish a social bond with others and achieved a sense of social and academic responsibility as they provided peer feedback. This demonstrated the importance of social connectedness to enhance collaboration. Interaction is widely accepted as the active engagement for learning to take place (Brown & King, 2000).

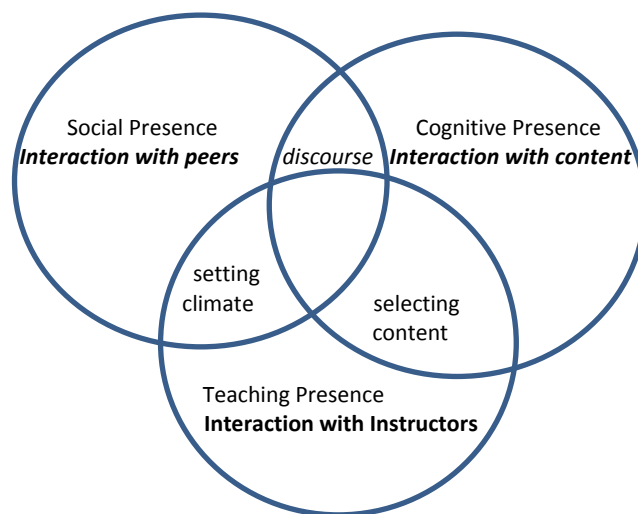


Figure 3. Relationships between Interaction and Learning in Online Environments
Rourke et al. (2001)

Figure 3 shows how learning happens around different interaction factors. First, the social presence is represented by interaction with peers. Rovai (2002) says that communities of practice are examples of how collaboration among learners which at the

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

same time results in more opportunities for communication and practice. Second, the cognitive presence is represented by the interaction with the content. Third, the teaching presence is represented by interacting with instructors. Given that chat rooms offer students the option to interact with peers, content and instructors, social and teaching presences are the focus of the current research. If collaboration among everyone involved in online settings occurs, there are more chances for learning to happen.

Cognitive Apprenticeship Model

The Cognitive Apprenticeship Model (CAM) was proposed by Collins, Brown, and Newman (1987); however it has been modified by other researchers. CAM combines cognitive and metacognitive processes for students to observe, enact and practice with help from the teacher and other students. Spector, Merrill, Merrienboer and Driscoll (2008) explain how the current model was modified by Gallimore and Tharp (1990) who added six forms of scaffolded assistance, Enkenberg (2001) added scaffolding and explanation as key strategies and Liu (2005) implemented a Web-based cognitive apprenticeship model.

Dennen and Burner (2008) explain that CAM utilizes cognitive and metacognitive skills and processes to guide learning. This model gains importance in this research because it offers a collaborative environment. Students learn in a group setting and support on classmates for learning. Teachers act as guides providing meaningful opportunities for learning. In other words, learners learn from an experienced learner in tasks that demand collaboration. The CAM includes seven teaching methods that promote collaboration among teacher and students (see Figure 4).

Spector, Merrill, Merrienboer and Driscoll (2008, p. 427) describe each teaching method as follows:

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Modeling: Describing the thinking process.

Coaching and scaffolding: Assisting and supporting student cognitive activities as needed.

Reflection: Self-analysis and assessment.

Articulation: Verbalizing the results of reflection.

Exploration: Formation and testing of one's own hypotheses.

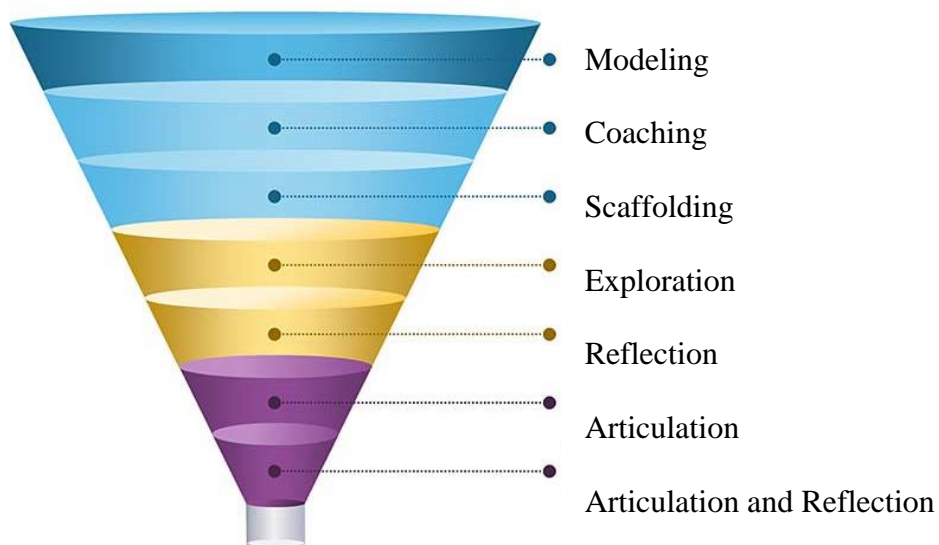


Figure 4. Cognitive Apprenticeship Model

Although this research considers all the six methods, special emphasis was made on reflection and articulation. Fostering self-reflection in SENA's online courses by applying the reflection method from cognitive apprenticeship is based on the idea through reflection learners develop a more conscious view of what is learned, build background knowledge, link new and prior knowledge, and evaluate the learning process (Brandes and Boskic, 2008). Students can implement self-reflection by

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

analyzing their accomplishment of goals when chatting. At this point, self-reflection is the result of collaborative practices where students have had the chance to discuss, analyze, exchange information with others. Palloff and Pratt (2005), Popovici (2012), promote the integration of learner-centered assessment tools such as checklists and peer assessment.

CAM is also appropriate for this research since it involves some instructional strategies that facilitate collaboration in online learning. It is possible to infer the CAM model has its roots in constructivist learning theories. The organization of the learning process provides a path to enhance collaboration in online environments, in this specific case chat room.

In recent years, there has been some research on the application of CAM to computer use. Liu (2005) conducted a research study adopting a quantitative research which demonstrated that the CAM improves pre-service teachers' performance and attitudes to instructional planning more effectively than the traditional training course. Liu (2005) applied three technologies in her study: multimedia, performance support systems and Web-based conferencing. Bearing in mind Liu's ideas, it is possible to state that CAM can be applied to many learning situations, specifically in language learning throughout the chat, the cognitive apprenticeship model contributes to integrate expert teachers and Internet technologies (Web-based multimedia, performance support system, and electronic conferencing) to foster learning.

Oshima and Oshima (2001), Jonassen (2004) studied several ways to language learning or novices by using scaffolding online. The strategy consisted of making two groups of learners, one with a comprehension oriented learning object and the other with a synthesis -oriented one. Participants used CSILE (computer-supported

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

intentional learning environments) which is a network system that provides a communal database of text and graphics for student use. Results showed that both groups used the tools in a similar way; for instance, they sent almost the same number of messages to other students for interaction. Nevertheless, a comparative analysis showed that students from the first group developed some metacognitive skills but the students from the second group did not have any improvement. Metacognition refers to thinking about one's thinking, so students from the former group reflected to be aware of what they knew and what they did not know as well as developed an idea of how to use their current skills to learn.

Another practical study was made by Russell and Cohen (1997) who studied the use of e-mail in order to promote reflection. Participants were supposed to express their thoughts, reflect on them and then discuss these reflections with friends. Researchers found that e-mail is an asynchronous tool that facilitated articulation and reflection, two methods that comprise the cognitive apprenticeship model; and also it resulted in a compilation of thoughts that could be used later for further reflection.

Online collaboration and cognitive apprenticeship aim to provide students with an authentic experience in which they assume particular roles and responsibilities in the learning process while they teach and learn from each other. Collaboration includes students teaching one another, students teaching the teacher, and of course, the teacher teaching the students (Dillenbourg, 1999).

All the research studies presented in this chapter exemplify the impact of the Web for language teaching and learning. In all cases, research participants had a role to play in learning and instead of being receptors, they were able to get involved in the activities through the social bonds they established with others throughout the different

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

online tools they used. In fact, the previous studies are just one part of the research that has been made in the field of social theory which reminds Vygotsky's ideas of social and cognitive development.

The premise of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition (Vygotsky, 1978). He was focused on the importance of the connections between people and the context in which they act and interact in shared experiences.

In this specific research and the ones reviewed, a context for learning was provided by means of different tasks and learning strategies as well as the collaboration to make participants act together. Learners went beyond their current level of competence through the guidance and support provided by more advanced classmates which also refers to Vygotsky's theory of ZPD (Zone of Proximal Development). An example of ZPD occurred in the current research in which peers' supported others and guided them to improve knowledge. On the other hand, instructors provided initial support through modeling, and later transferred the responsibility for learning to the students helping them gradually to develop the ability to do certain tasks without help or assistance. This concept reinforces CAM's premises of people learning together learning from one another, through observation, imitation and modeling (Collins, Brown and Newman, 1987).

Research Design

This section presents the type of study, participants, data collection instruments and procedures.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Type of Study

This research adopted an action research approach. The reason for choosing this approach is based primarily on the fact that action research “is not merely research which it is hoped will be followed by action. It is action which is intentionally researched and modified, leading to the next stage of action which is then again intentionally examined for further change and so on as part of the research itself” (Gall et al., 2007). Therefore, the researcher has the opportunity to impact the teaching and learning processes by giving significance to any decision made in the classroom. In this specific case, SENA students found new ways to learn by interacting in chat rooms.

According to Mills (2003) “Action research is any systematic inquiry conducted by teacher-researchers to gather information about the ways that their particular school operates how they teach, and how well their students learn. The information is gathered with the goals of gaining insight, developing reflective practice, effecting positive changes in the school environment and on educational practices in general, and improving student outcomes” (p, 4).

However, learners’ manifested learning online through the Blackboard Collaborate platform was not what they expected since they had feelings of isolation and lack of synchronous interaction with their peers. In consequence, the researcher aimed at enhancing direct communication by using one of the tools that the platform offers called chat.

Techniques used in a qualitative research paradigm were used for the process of data collection. The researcher used a survey to diagnose students’ perceptions about English online learning and the curriculum they had. Later, during the implementation stage, each live-session in Blackboard was recorded and chats were transcribed. Next,

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

an interviews where conducted and checklist was administered in order to elicit students' insights regarding the use of chat in online educational settings to enhance collaborative learning. The Qualitative paradigm permits researcher to identify different viewpoints. Russell, and Kelly (2002). Figure 5 summarizes the action research process developed in this study.

During the research process the researcher assumed different roles. First, she served as a facilitator by providing guidance. She provided guidance about how chat may be used. She was a motivator. Students could express themselves without the time pressure. She was a model too. Exemplifying tasks to students inspire them to participate in class and eventually become experts. Finally, the researcher was a guide. She helped students to be responsible, take risks, and be independent.

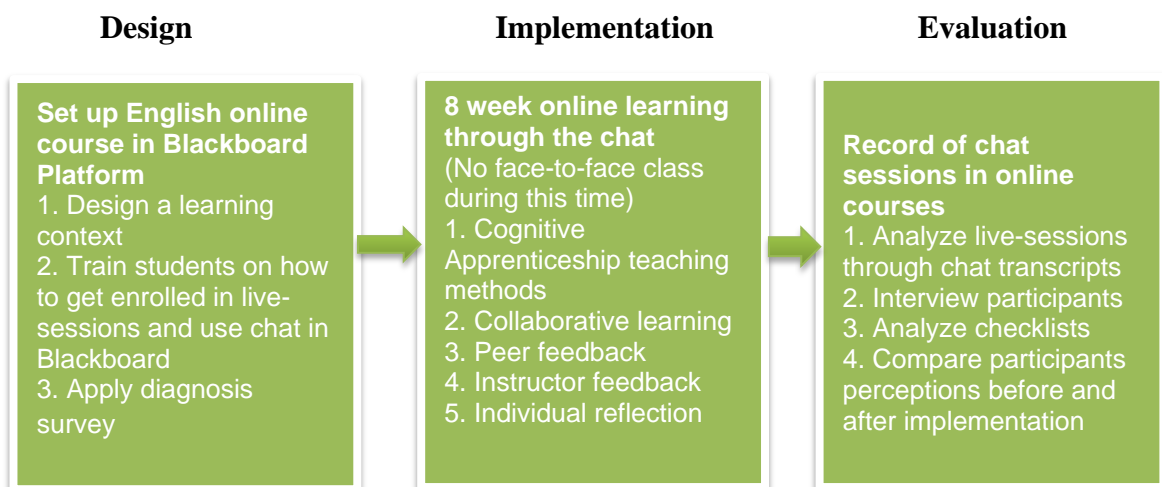


Figure 5. Research process

Context

This study took place at SENA Regional Meta, a department located in the west of Colombia. SENA is a public institution in Colombia that offers tertiary education in many technical training programs. The mission and vision at SENA include the following statements:

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

- Free access and cost: Any Colombian citizen can be admitted to SENA. Students are discriminated against on any basis. Students are offered free instruction and can choose their path from technical, technological, face-to-face or online programs.
- Global Job: SENA belongs to the Labor Department of Colombia which has an agreement with numerous companies around the country in which it is stated that the companies contract SENA's students in their practicum stage and offer them a formal job with all the benefits and responsibilities that it entails. In consequence, almost 97% of SENA graduates finish their programs with a job offer.
- Teaching for Work: SENA offers tertiary education by means of job skills. In other words, the instructor focuses on contextualizing all the topics with students' real situations in their future jobs. English and all subjects focus on teaching for work which means training students to be competent in their specific field of workforce education.

SENA has a school-wide curriculum with materials, course objectives, and midterm and final assessment. The online course in which this research was conducted is called: "English dot Works: Beginner Level".

Figure 6. SENA's Language Course – English dot Works



INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

During online sessions, instructors use many supplementary readings, language exercises, and writing topics or prompts to help students review and practice content. The goal is to prepare students for reading, writing, and communication, so that they achieve the intermediate level of proficiency according to the Common European Framework of Reference (CEFR).

Participants

Twelve beginning English students were part of this study. Their age ranged from 18 to 30 years old, with a mean age of 24 years old. They were enrolled in a Beginner online course offered at SENA. All participants had six years of previous English instruction in the form of required classes in English as a foreign language (EFL) in secondary school. The curriculum used in their English course at school was determined by a book organized around different topics in which each unit presented different grammatical features, functional expressions, and vocabulary. During a typical class period, the students completed listening or reading activities and listened to their instructor explaining grammatical forms and functions. In terms of oral communication skills, they carried out drills and role-plays that involved manipulating conversations that appeared in the textbook.

Participants were placed in an elementary A1 level of proficiency according to the Common European Framework of Reference for Languages. All of them reported having already taken at least one online course related to another field of knowledge offered at SENA; therefore, they already knew how Blackboard Collaborate operated. Nevertheless, they were not aware of the advantages that this platform offered for language learners.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Ethical Considerations

In order to comply with the ethical considerations a protocol was followed. First, the research group at SENA was informed about the interest of carrying out this study as part of the macro project done at the institution. A plan was presented to show how this research would support the institutional one. Second, once the research group director accepted the inclusion of this research study, students were informed about the project and invited to participate. Third, participants were given a consent letter (Appendix 1) specifying that participation was voluntary. Lastly, the research group at SENA was informed of the advances and results of this project.

Data Collection Instruments

Data were collected at three different times; at the beginning of the research to diagnose, during the implementation phase and at its conclusion to identify how CAM enhanced online collaborative learning in chat rooms.

In the diagnosis stage, participants were asked to fill out a survey to identify their perceptions about the methodology in online courses. (See Appendix 2) This diagnosis enabled the researcher to identify the main problem. In the implementation stage self-assessment checklist, chat transcripts, and interviews were used.

- Survey: A survey is a feasible tool because it is fairly easy to interpret, tabulate, and summarize (Oppenheim, 1992). The survey explored the recent experiences of participants in online SENA courses, noting their preferences for various interactive components in the learning experience, as well as their interest in using a new option for synchronous communication and interaction online not only with instructors but also with peers. Such interaction supports the notion of the influence of the “network” and “collective” proposed by Anderson and Dron

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

(2007). The survey in this study consisted of seven open questions as part of the diagnosis.

- Students' Interviews (Appendix 3): Interviews are part of qualitative research, which is the main paradigm of this study. Accordingly, the interview allows probing for greater depth or explanation of participants' opinions and thoughts (Kvale, 1996). Interviews in this study included six questions aimed at analyzing students' feelings and perceptions about the effectiveness of the CAM online for enhancing collaborative learning. Interviews were recorded and analyzed later in order to verify and/or clarify concepts.
- Self-Assessment Checklist (Appendix 4): Carter and Nunan (2001) state that self-assessment assists learners to become self-directed. In other words, as students become more aware of their strengths and weaknesses, they should be able to set realistic goals for themselves. Self-evaluation was one of the methods for this research because it aimed at giving students the chance to evaluate themselves during the online sessions and reflect on their own learning strategies while collaborating with each other.
- Chat transcripts (Appendix 5): Transcripts represent communications (Freeman, 1998). In this study, chats were used to analyze students' messages in terms of synchronous interaction and collaboration in this online setting.

Pedagogical Intervention and Implementation

Instructional Design

This study occurred over a six-month period during the second semester of 2013 and the first semester of 2014. The pedagogical intervention involved the

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

implementation of an instructional design to enhance online collaborative learning. Such implementation was done on Blackboard Collaborate. The platform facilitated collaboration sessions through real-time lessons and discussions via virtual classrooms and chat (see Figure 7)

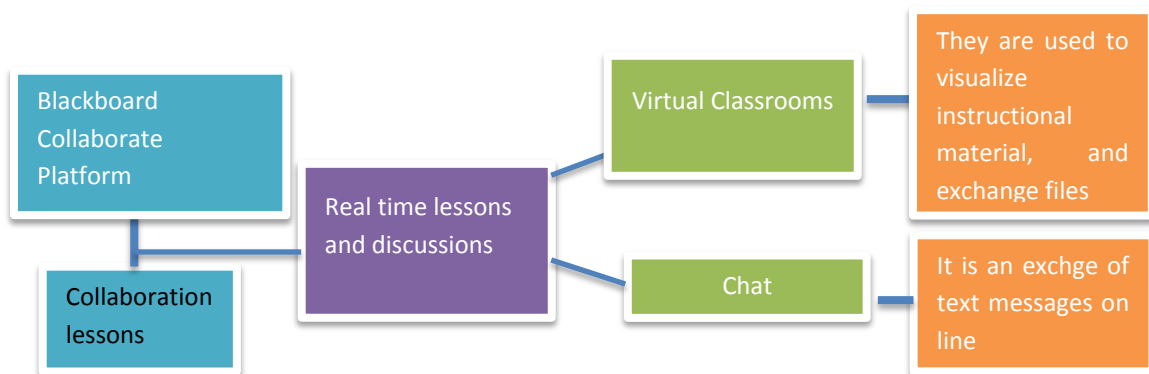


Figure 7. Blacboard Collaborate – Real-Time Lessons and Discussions

The diagnosis revealed that the chat tool was not being used for educational purposes and that chat interaction had not being implemented. This implementation attempted to offer more learning opportunities when students interacted in the chatroom. Collaborative learning with the chat tool may be enhanced through the type of interaction and instructional design CAM provides within its six teaching methods. Figure 8 summarizes this idea.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

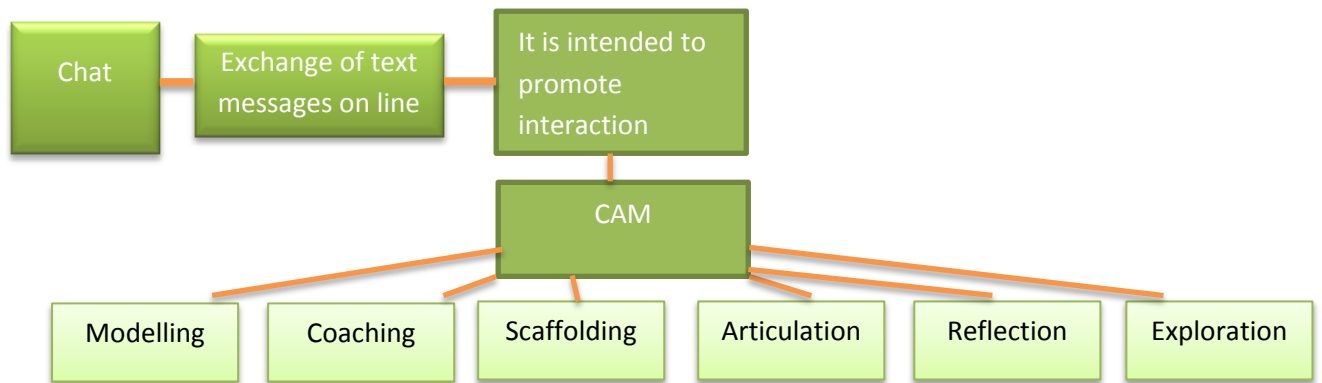


Figure 8. Collaboration with Chat Tool

Implementation

The CAM teaching methods were implemented in eight lessons, one lesson per week. Keeping in mind that collaboration implies common goals and group work, the instructor organized learners into small groups using the grouping tool. During each lesson students and instructors assumed different roles as shown in figure 9. They were models, coaches or experts moving from direct instruction to independent learning in a collaborative environment.

This pedagogical implementation included five phases: Modeling- Coaching - Scaffolding (two sessions each), Articulation (one session) and Reflection (one session). In addition, there were opportunities for both asynchronous and synchronous communication. Asynchronous communication refers to the instructor posting discussion topics on the chat and inviting learners to post comments. Synchronous communication refers to instructors and learners using chat rooms for discussion, immediate feedback, and language skills practice.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Figure 9. Roles of Cognitive Apprenticeship Model through Chat

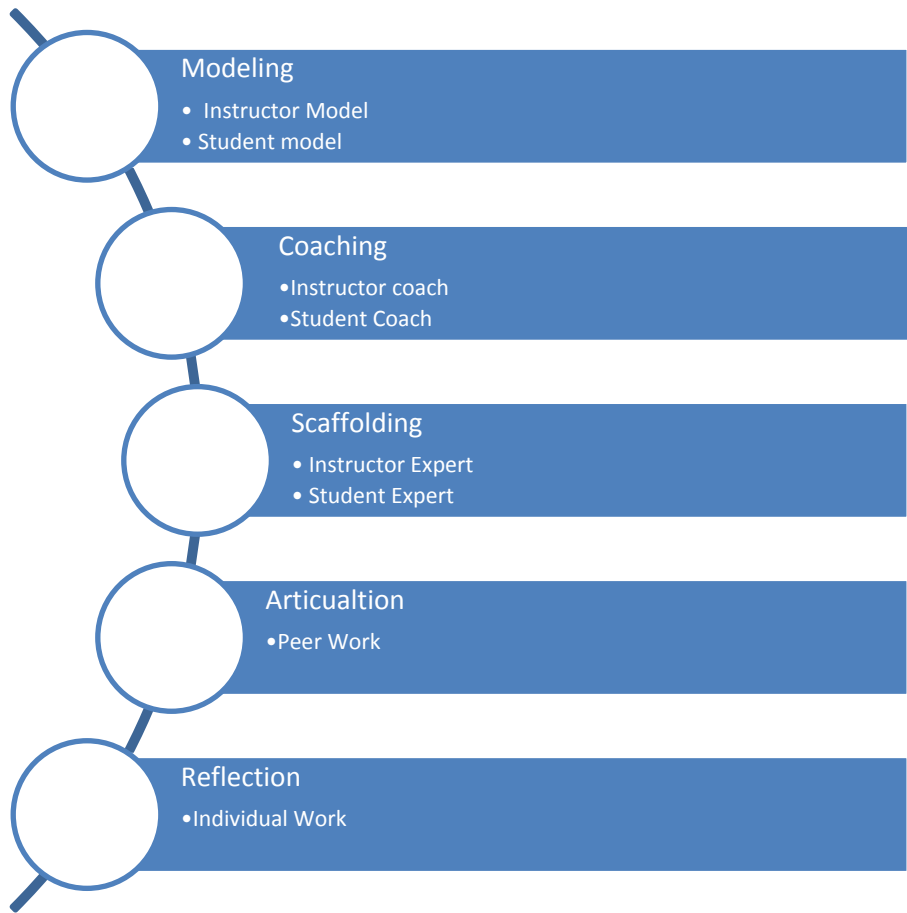


Table 2. Pedagogical Implementation: Modeling

Cognitive Apprenticeship Model: Teaching Methods	Session	Task Content
<p>Modeling</p> <p>It allows students to observe the instructor’s demonstration of an explicit task, skills and specific strategies used</p> <p>The instructor acts as the expert and students as the novice.</p>	1	<p>Instructional activity: Information gap. Instructor models for students. Students take turns to ask questions and accomplish the task goal. The instructor talked about her own family and later asked another student to model.</p>
	2	<p>Learning outcome:</p> <ul style="list-style-type: none"> -Describe family relationships -Spell names -Talk about one’s family -Give street names and nearby landmarks - Ask questions following the structure studied

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

		<p>Collaboration: in pairs, give clues, clarify concepts, ask and give information, answer questions related to task, give the partner suggestions and directions, provide feedback</p> <p>Materials: worksheet (Appendix 6) visuals</p>
--	--	--

Table 3. Pedagogical Implementation: Coaching

<p>Coaching</p> <p>Learning support aimed at improving the performance of a student by bringing this performance closer to expert performance.</p> <p>Coaches provide hints and feedback which is possible because of the constant monitoring.</p>	<p>3</p> <p>4</p>	<p>Instructional activity: Guessing games Students say advantages and disadvantages of various products. Partners have to guess what the product is. At the end they describe products they usually buy.</p> <p>Learning outcomes:</p> <ul style="list-style-type: none"> - Tell how much a product is - Get information about products - Compare items in a store - Ask questions following the structure studied <p>Collaboration: Group work. Give hints to solve puzzle, provide feedback, guess words, clarify concepts, and confirm information.</p> <p>Materials: worksheets (appendix 7)</p>
--	-------------------	--

Table 4. Pedagogical Implementation: Scaffolding

<p>Scaffolding</p> <p>Peer assistance in reaching required skill levels. The main objective is students to manage on their own. Scaffolding offers reminders, clues</p>	<p>5</p> <p>6</p>	<p>Instructional activity: Problem solving Students do some bank transactions. They have to explain why they make banking decisions such as how to invest money.</p> <p>Learning outcome:</p> <ul style="list-style-type: none"> - Do bank transactions - Explain balance situation - Talk about how to save money - Ask questions following the structure studied <p>Collaboration: Pairs – A low level student and an advanced one.</p>
---	-------------------	---

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

		Scaffolds to approach given situations Materials: Worksheet (appendix 8)
--	--	---

Table 5. Pedagogical Implementation: Articulation

<p>Articulation</p> <p>Students expose misunderstandings and explain decisions made. Students solve problems. At this stage they become more experts.</p>	7	<p>Instructional activity: Interviewing</p> <p>Learning outcome: -Express likes and preferences taking into account the context -Ask questions following the structure studied</p> <p>Collaboration: Pairs – A low level student and an advanced one. Students ask and answer questions about their likes.</p> <p>Materials: N/A</p>
---	---	--

Table 6. Summary Pedagogical Implementation: Reflection

<p>Reflection</p> <p>Learners think about how they approached learning and achieved learning outcomes. They find new ways and points of view to enrich their own learning process. Students also compare their way of problem solving with the one of their peers.</p>	8	<p>Instructional activity: Reflection Students ask each other about CAM tasks and do check list. Students write a reflective paper Students complete a mind map</p> <p>Learning outcome: - Reflect about the effect of incorporating CAM in lessons - Write a reflective paper expressing if collaboration was enhanced with chat tool. - Read strategies used by classmates to solve a set of given problems and learning tasks</p> <p>Collaboration: Groups. Discussion, assessment, peer review, planning based on strengths and weaknesses during the sessions</p> <p>Materials: Self – assessment checklist (Appendix 4), mind map (Appendix 9)</p>
--	---	--

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

The implementation had four main components. First, the instructional activity made reference to the tasks students performed. Bearing in mind each teaching methods in CAM has special characteristics, the instructional activities were carefully chosen. For example, activities related to coaching involved students guiding peers. Second, learning outcomes related to the common goal to achieve. Outcomes were established taken into consideration the online course competences which at SENA refer to what students can do with the language. In other words, learning outcomes expressed what students were expected to do. As it can be seen, the outcome in this research were functional, it means, students used language and structures to communicate in social situations. Third, collaboration was understood as the type of interaction and support received, if any. For instance, when implementing the scaffolding teaching method, the instructor paired advanced learners with developing ones. Lastly, materials refer to all the resources used to accomplish the task. Once again materials depend on the students' level of expertise and objective of the teaching method.

In this research, the self- assessment check list and samples of students reflective papers were used for students to rate their own experience. In conclusion, the proposed pedagogical implementation considered the experience, applicability of concepts, and problem solving in order to engage students in all the proposed activities.

The pedagogical intervention followed the sequence of CAM teaching methods. Each teaching method integrated several instructional tasks, including games, reflective papers, role plays, and interviews. Additionally, students and instructor collaborated through different groupings, and support was provided during the synchronous communication using chat.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Collins, Brown and Newman (1987) state that in cognitive apprenticeship, conceptual and factual knowledge is exemplified and situated in the contexts of its use (p. 3). Implementing CAM requires concepts to be contextualized in this specific case students did bank transactions or described their own families. A deeper understanding is encouraged when students make associations like the ones exemplified.

Applying CAM shows the relationship between learning process and product. If students receive feedback and have an opportunity to ask questions while working with a partner, they are more likely to be successful when completing a task. As seen in the implementation chart, students needed to perform tasks that could only be achievable if students had the basic knowledge. For example, learners must have mastered vocabulary like the one of family members and numbers or grammar such as comparatives to be successful when performing the tasks. Mastering was possible with the support of others during chat interactions as described in results and data analysis section.

The implementation also help learners move from guided to independent practice. Modeling was initially done by the teacher, and then by peers. At the end of the process, students were able to write simple sentences about their language learning process.

Results and Data Analysis

This chapter presents the analysis and interpretation of the data gathered from the participants before, during and after the implementation. The chapter discusses how the information compiled answered the research question. In order to provide validity and reliability to this research during the diagnostic and implementation phase, the

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

researcher applied the triangulation process which provided more than one perspective on the topic being studied. (Wallace, 1996; p. 36)

Analysis involved the framework proposed by Ritchie and Spencer (1994) in which gathered data is sifted, charted and sorted in accordance with key issues and themes. This process involved a five step process:

1) Familiarization: In the familiarization stage the researcher got acquainted with the data collected and gained an overview of it.

2) Identifying a thematic framework: It consisted of recognizing emerging themes or issues to categorize data. The key issues, concepts and themes were expressed by the participants and were used to filter and classify the data.

3) Indexing: the researcher assigned numbers to participants' survey, interviews and chat transcripts to identify portions or sections of the data that corresponded to a particular theme.

4) Charting: In the charting stage, some headings from the thematic framework were created in charts in order to clearly identify data and keep it organized for interpretation.

4) Mapping and interpretations: This was the final stage and involved the understanding of results in terms of key characteristics of the data set. The next section presents the interpretations made in the current research.

According to Burns (2003) "data analysis in action research involves moving away from the "action" component of the cycle, where the main focus is on planning and action, to the research aspects, where the focus changes to more systematic observing and reflecting" (p. 153). In simple terms, if one wants to do research, one

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

needs to move from planning to interpreting and analyzing based on patterns from data. In this specific study, the researcher analyzed and interpreted how the incorporation of CAM enhances collaboration by understanding the types of synchronous communication and interaction using a chat tool. In other words, the researcher went beyond planning a class to collecting evidence of the impact of an innovative strategy for SENA students. Results in the current research were grouped in three sections as shown in the following table:

Table 7. Data Collection Tools

Before implementation	Diagnostic survey
During implementation	Chat transcript and checklists
After implementation	Students' interview

Data Analysis before Implementation

Survey

The survey was applied to gather students' perceptions about the online sessions and in that way diagnose the problem situation. Four main themes emerged (see Table 8).

Table 8. Survey Analysis

Themes	Questions	Results
Activities	1, 2	The activities consisted mainly of forums and surveys that included writing. Students agreed interactive activities were more useful.
Online tools	3, 4, 6	English Online courses students had taken before were focused on including asynchronous tools rather than synchronous ones. Some participants did not know Blackboard offered live sessions. Students liked surveys to evaluate their knowledge and forums to share ideas.
Interaction	5, 6, 7	Time to interact with classmates was reduced in English

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

		online courses. Students spent more time doing individual written activities. Students manifested the need to collaborate online for learning with and from others. They felt isolated.
Expectations	7, 8	Use more tools that Blackboard offers. To receive feedback in a timely manner. To have real time sessions. To share ideas and knowledge with instructor and peers. Receive explanations directly.

Despite the fact that Blackboard Collaborate has many tools; students were only using forums and surveys. A need of collaboration was also identified. Students wanted to perform real-time sessions in which they could work with their peers by receiving feedback, performing tasks, and asking questions. Results of the survey let the researcher plan the pedagogical intervention.

Data Analysis During Implementation:

Chat Transcript Results

The researcher transcribed chats and used color coding to identify the type of collaboration in the chatroom. Since collaboration means sharing ideas and working together to reach a goal, themes about the type of support and interaction were highlighted when implementing CAM. The following table presents the type of support needed for each method as well as samples from the chat.

Table 9. Chat Analysis

CAM Teaching Method	Themes - Collaboration	Chat Sample <i>I: Instructor</i> <i>S: Student</i>
	Asking questions	S1: It is the verb to be S3? S3: Yes it is
	Clarifying	I: It is the verb to be. I: The first question tells me the right way to answer the others. Then, I can go to look for the unknown words. Is it clear so far?

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Modeling		S7, S4, S8, S2: Yes teacher
	Providing feedback	S5: The number is good? I: just check the last word.
	Correcting errors	S3: Your name is? I: You should say “what is your name?”
	Motivating	I: Try to create a similar sentence. S8: What is the equation? [Is ok?]
	Exemplifying	S6: I like listen music, is correct? S9: No, I like TO listen TO music.
	Guiding	S7: You can start search words in wordreference. S2: wordreference? [.com or .org?]
Coaching	Solving problems	S11: 10, 20 in the chart means dollars.... S4: but see the equation it is not correct, revise. S11: Pesos, sorry S4: [Sum all] and finish
	Providing feedback	S3: Beautiful with more...? S9: Yes, long adjectives: beautiful add more. Example more beautiful
	Motivating	S1: I am confused, [is not clear] I: Ok, so, first look at the page number 2, check the equation and follow the steps we studied. S1: Assets+liabilities? I: Yes S1: [One x one, yes?] I: Yes
	Giving hints	S2: What is cheap in the paper? S5: mmmm is the opposite to expensive...look at the pictures....
	Guiding	S10: Imagine a store...where you buy shoes, then start with questions. I: Go ahead and let me know
	Organizing ideas	S12: Explain please the start... S4: ok. First organize the phrases you want to write and is easy to develop after. S12: [In the page 1...yes?] S4: Yes, part 1
Scaffolding	Motivating	S1: [Forgot to write the numbers] I: Do it, no problem.
	Providing feedback	S5: Check the concepts in the presentation, maybe you have problems in number 6 S7: 6? S9: [Yes in the end]
	Setting pace	S2: Teacher, this is correct? I: The idea is to organize the sentences, so that you find the right way to solve the problem. Just read carefully.
	Evaluating strategies	S7: you participated more in chat? I: Show me the checklist. Explain me the 6

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Articulation		please.....Example.
	Reflecting on learning	S1: problems for chat? S7: no, I liked this activity, I write English
	Providing feedback	I: Your strategies worked well? S5: [Yes, I read first, then answer and review before send] I: That's good. In that way you make sure that everything is okay.
Reflection	Evaluating strategies	S10: [I need review materials]
	Reflecting on learning	S12: I have to study more
	Setting objectives	S3: [I will review the present and numbers more in the house]

To conclude this section, it is evident that all CAM teaching methods provided opportunities for collaboration. At the end of the process, the idea of having the instructor support students in timely settings resulted in students' engagement in activities reflected in their active participation and how could they finally reflect on their own learning.

The instructor working synchronously with the students helped them ask more questions and not only receive but provide feedback. Students helped each other to understand the topic.

Articulation and reflection let students compare their learning process. They showed awareness of their strengths and weaknesses in English language learning and could they improve.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Students' Checklist Results

The checklist was divided in four sections. The author analyzed students' perceptions about the use of chat in English online sessions. Table 10 reports the percentage of satisfaction.

Table 10. Checklist Percentage of Satisfaction

Checklist Statement	Percentage ☺
Access to the Chat Tool	
Easy access to chat tool	83,3
Chat for Educational Purposes	91,7
Instructor's Performance	
Sessions Appropriate Length	66,7
Instructor's Guidance	75,0
Instructor's performance	75,0
Group Organization	83,3
Instructor Appropriate Explanation of Strategy	75,0
Students' Performance	
Student's Active Role	75,0
Students' improvement in their performance	75,0
Opportunities to ask questions to instructor	83,3
Immediate feedback from instructor	75,0
Feedback	
Opportunities to guide a classmate during the session	83,3

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Opportunities to give hints and clues to classmates	75,0
Appropriate feedback from classmates	66,7

The first section shows that students know how to enroll in the chat room, and that they used it for educational purposes. The second and third sections demonstrated the instructor's ability to manage the time in the session and to offer guidance. Instructions, guidance and feedback were provided. Participants had the opportunity to work with others towards a common goal. In section four, 83% of the students reported to have an active role during the sessions by giving feedback. In spite that some issues like time length during the activities and appropriate feedback from other students, the participants reflected an acceptance to the use of chat for learning. It is possible that some adjustments in time might be made as well as training students to offer a more appropriate feedback to others. In this sense, the role of the instructor in the modeling phase is determinant to teach the right strategies to make feedback useful.

Data Analysis after Implementation

Interview

After the implementation an interview elicited participant opinions about the chat use in English online courses. The interview consisted of six open questions. Table 11 presents the questions and the themes that emerged in light of collaboration as well as samples of responses .

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Table 11. Interview Analysis

Interview Questions	Themes - Collaboration	Sample - Answers
1. What is your opinion about using chat in online English classes?	<ul style="list-style-type: none"> - More contact with peers - More opportunities to ask questions - More opportunities to practice 	<ul style="list-style-type: none"> - <i>The chat gave me the opportunity to meet my classmates and share things with them while learning English</i> - <i>Chat tool and taking roles were different from other classes everyone could learn at the same time</i> - <i>Chat is easy to use and you do not need to follow steps like in forums, you ask and receive an answer quickly</i> - <i>It is good to work with students that have the same level but sometimes is good because we learn when we explain.</i>
2. How did you feel using chat tool for learning English?	<ul style="list-style-type: none"> - Motivated - Happy to have social contact - Willing to participate 	<ul style="list-style-type: none"> - <i>For me, this is the first time using chats in English classes. It is fun!</i> - <i>Having my instructor during the session makes me feel motivated to attend and make all the questions I have about the material</i>
3. Do you think the strategies used let you interact with your instructor and classmates? Why?	<ul style="list-style-type: none"> - yes, communicate in real time - yes, Group work 	<ul style="list-style-type: none"> - <i>Chat is easier to communicate with instructor and friends and to know that other people are behind the screen too.</i>
4. What are the advantages and disadvantages of using this type of activities with chat tool for learning English?	<p>Advantages:</p> <ul style="list-style-type: none"> - Communicate in real time - Make connections with instructor and peers - Process materials - Receive feedback - Confidence to participate - Reflection on learning 	<ul style="list-style-type: none"> - <i>I could test myself and realize how faster I am to answer a question or look for something I do not know</i>
	<p>Disadvantages:</p> <ul style="list-style-type: none"> - Lack of all students involvement - Time constraints 	<ul style="list-style-type: none"> - <i>In some tasks the time we had to work with the classmate was not enough and had to stop in the middle of it</i> - <i>Some friends do not have the same performance and we need more time to guide them</i>

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

5. Would you like to continue using this type of activities for learning English with chat? Why?	Yes ... -to work with classmates -to express thoughts -to discuss with others -to reflect on learning	- <i>Working with classmates and receiving their suggestions was helpful and made me think in different ways to explain and I learned more</i>
	No because.....	Answers were not reported
6. What aspects should be improved for next sessions?	- Time management	- <i>Some friends take too much time in just one question and we wasted time.</i>

Data analysis let the researcher interpret that the eight sessions incorporating CAM with chat tool provided different opportunities for collaboration.

Conclusions and Pedagogical Implications

Conclusions

Enhancing collaboration when learning in virtual environments is not always an easy task. This research demonstrates that by incorporating the CAM, students work together to reach a common goal. In this specific study, SENA students found that a chat tool, besides offering a space for social activity, was a suitable place for sharing ideas, discussing, reflecting on learning, asking questions, and receiving feedback. In simple words, chat was useful to interact with others while learning.

The implemented CAM teaching methods included games, reflections, interviews, information gap and problem solving. Performing a variety of activities improves students' sense of collaboration. They start by seeing a model which gives them confidence. Later they know they can rely on their peers to practice and receive feedback. At the end, they have criteria to reflect and act upon their learning process.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Using the chat for educational purposes offers synchronous communication for learners to receive timely support. In consequence, learners improve performance through collaborative learning.

Creating a sense of social presence online is effective when incorporating CAM. Feelings of isolation and demotivation turn into engagement in activities and motivation. Students are responsible for their learning by working with others in such a way that language knowledge is deepened.

Another key aspect refers to the different roles instructors and students assume. Students may be models, coaches, guides or experts in online learning. First, they will be responsible for demonstrating a task explicitly, then they will guide peers for improving performance, and finally, they become experts which facilitates a gradual withdrawal of instructor from the process.

Self-reflection in online environments occurs when collaboration is enhanced through CAM. The mediation of computer communication via chat tool provides a bridge for self-reflective practices supported by synchronous interaction. Students can learn from others and think of their own strategies. For example, they can infer best practices and adjust to their own learning process.

Pedagogical Implications

A radical transformation in the way SENA teachers use Blackboard Collaborate tools should be practical and effective. This research provided many important outcomes that will contribute to the improvement of online teaching. First, the use of CAM offers collaborative learning opportunities. Each teaching method may be implemented with various tasks such as guessing, games, and role plays. Second, the

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

chat helped students to receive synchronous feedback, guidance and support. Third, the use of CAM with chat is an opportunity to reflect about the learning process. Some self-assessment tools may be incorporated for students to define their learning goals.

Working in live-sessions like chat demands preparation from instructors. Session objectives must be set which give the session its purpose and order. Activities should be chosen in advance. For example, designing activities with CAM requires time and preparation to offer the appropriate guidance and support during the sessions. Additionally strategies need to be reviewed. In this research, CAM proposes six teaching methods which gives instructors multiple options for planning. Providing guidance and feedback is relevant during the process. Students need constant guidance and feedback; consequently, being attentive to students' questions could be a good strategy to facilitate learning.

Further Research

This project studied the implementation of CAM in a chatroom to enhance online collaborative learning. It would be interesting to apply CAM with other online tools. Participants also provide another research parameter. Participants in this study belonged to a beginning courses, nevertheless, future research may involve advanced levels of instruction.

Bearing in mind the online learning environment is on Blackboard Collaborate, some studies could be conducted on the efficacy of this platform. Further research could be done on the impact of different platform tools on students' learning. Additionally, this research was conducted on the English course; it would be interesting to research on how other disciplines implement Blackboard tools for learning.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Limitations

During this study, the researcher faced some limitations. At the beginning, scheduling sessions was confused. Students were not used to having synchronous online classes. In consequence, chat sessions were rescheduled for everybody to attend. Assigning groups in Blackboard demanded planning. Another limitation had to do with the number of participants. The implementation was done with only one of the beginner courses – twelve students. The impact might have been more significant, if the researcher had had the opportunity to implement the proposal with more courses. Finally, the main limitation referred to class management. Because the researcher could not monitor all chat sessions simultaneously, some students could have been off task or using chat for social purposes rather than for learning.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

References

- Anderson, T., & Dron, J. (2007). Groups, Networks and Collectives in Social Software for E-learning. Paper presented at 2007 European Conference on E-Learning, Copenhagen.
- Antenos-Conforti, E. (2009). Microblogging on Twitter: Social Networking in Intermediate Italian Classes. *The Next Generation: Social Networking and Online Collaboration in Foreign Language Learning*. Eds. L. Lomicka and G. Lord. Texas: CALICO.
- Aziz, G. (2003). Cognitive Apprenticeship, Technology, and the Contextualization of Learning Environments. *Journal of Educational Computing. Design & Online Learning*. Vol. 4, 2003.
- Beldarrain, Y. (2006). Distance Education Trends: Integrating New Technologies to Foster Student Interaction and Collaboration. *Distance Education*, 27(2) (pp. 139-153).
- Brandes, G.M., & Boskic, N. (2008). Eportfolios: From Description to Analysis. *International Review of Research in Open and Distance Learning*, 9(2), 1-17. Retrieved from ERIC.
- Brandes, G.M., & Boskic, N. (2008). Eportfolios: From Description to Analysis. *International Review of Research in Open and Distance Learning*, 9(2), 1-17. Retrieved from ERIC.
- Brindley, J., Walti, C., Blaschke, L. (2009). Creating Effective Collaborative Learning Groups in an Online Environment. *International Review of Research in Open and Distance Learning*. Vol 3, 10.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

- Brown, S. W., & King, F. B. (2000). Constructivist Pedagogy and How we Learn: Educational Psychology Meets International Studies. *International Studies Perspectives*, 1(3), 245-255.
- Carter, R., and Nunan, D. (2001). *The Cambridge Guide to Teaching English to Speakers of Other Languages*. Cambridge: Cambridge University Press.
- Chiong, R and Jovanovic, J. (2012). Collaborative Learning in Online Study Groups: An Evolutionary Game Theory Perspective. *Journal of Information Technology Education: Research*. Vol 11.
- Collins, A., Brown, J. S., & Newman, S. E. (1987). *Cognitive Apprenticeship: Teaching the Craft of Reading, Writing and Mathematics* (Technical Report No. 403). BBN. Laboratories, Cambridge, MA. Centre for the Study of Reading, University of Illinois.
- Dennen, V. P., Burner, K. J. (2008) *The Cognitive Apprenticeship Model in Educational Practice*. Florida: Florida State University
- Dillenbourg, P. (1999). *Collaborative Learning: Cognitive and Computational Approaches*. Advances in Learning and Instruction Series. New York, NY: Elsevier Science, Inc.
- Dudeny, G. (2007). *The Internet and the Language Classroom*. Cambridge: Cambridge University Press.
- Espitia, M. and Cruz, C. (2013). *Peer Feedback and Online Interaction: A Case Study*. *Ikala*. Medellin.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

- Gall, M. D., Gall, J. P., and Borg, W. R. (2007). *Educational Research: An Introduction*. (8th edition). Boston: Pearson/Allyn & Bacon.
- Jonassen, D. H. (2004). *Handbook of Research on Educational Communications and Technology*. New Jersey: Lawrence Erlbaum Associates.
- Kessler, G. (2009). Student-Initiated Attention to Form in Wiki-based Collaborative Writing. *Language Learning & Technology*, 13(1), 79–95. Retrieved from <http://llt.msu.edu/vol13num1/kessler.pdf>
- Kim, E, Park, S, and Baek, S. (2011). Twitter and Implications for its Use in EFL Learning. *Multimedia-Assisted Language Learning*, 14(2), 113-137.
- Kvale, S. (1996). *Interviews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA: Sage.
- Laal, M., Ghodsi, S. M. (2012). Benefits of Collaborative Learning. *Procedia. Social and Behavioral Sciences*. Volume 31, 486-490. Retrieved from: www.sciencedirect.com August, 2014
- Liu, T.-C. (2005). Web-based Cognitive Apprenticeship Model for Improving Pre-service Teachers' Performances and Attitudes towards Instructional Planning: Design and Field Experiment. *Educational Technology & Society*, 8 (2), 136-149.
- Mills, G. (2003) *Action Research: A Guide for the Teacher Researcher*. Oregon: Pearson.
- Oppenheim, A.N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter Publishers.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Palloff, R. M., and Pratt, K. (2005). *Collaborating Online: Learning Together in Community*. San Francisco, CA: Jossey-Bass.

Pelletieri, J. (2000). Negotiation in Cyberspace: The Role of Chatting in the Development of Grammatical Competence. In M. Warschauer & R. Kern (Eds.) *Network-based language teaching: Concepts and practice* (pp. 59-86). Cambridge: Cambridge University Press.

Picciano, A. G. (2002). Blended Learning Implication for Growth and Access. *Journal of Asynchronous Learning Networks*, 10, 3.

Popovici, D (2012). The Role of Reflection in Online Learning. Sunday, January 29, 2012. Retrieved from: <http://poppins-upsydaisy.blogspot.com/2012/01/role-of-reflection-in-online-learning.html>

Rajesh, R (2009). *Cognitive Development in English Language Teaching*. Bangalore: Lulu Press Inc.

Richardson, W. (2006). *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms*. London: Corwin Press.

Ritchie, J. and Spencer, E. (1994) Qualitative Data Analysis for Applied Policy Research. In, Bryman, A. and Burgess, R.G. (eds.) *Analyzing Qualitative Data*. (pp. 25-47). London: Routledge.

Rourke, L., T. Anderson, D. R. Garrison & W, Archer. (2001). Assessing Social Presence in Asynchronous Text-based Computer Conferencing. *Journal of Distance Education*, 14(2).

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

- Rovai, A.P. (2002). A preliminary Look at Structural Differences in Sense of Classroom Community between Higher Educational Traditional and ALN Courses. *Journal of Asynchronous Learning Networks* 6, 1-13.
- Russell, A. Cohen, L. (1997). The Reflective Colleague in E-mail Cyberspace: A Means for Improving University Instruction. *Computers & Education*, 29(4), 137–145.
- Russell, G. M., and Kelly, N. H. (2002). Research as Interacting Dialogic Processes: Implications for Reflectivity. *Forum Qualitative Sozialforschung*, 3(3). Retrieved from <http://www.qualitative-research.net/index.php/fqs/article/view/831/1807>
- Siemens, G. (2002). Interaction. E-Learning Course. October 8, 2002. Retrieved august 7, 2014, from <http://www.elearnspace.org/Articles/Interaction.htm>
- Skinner, B., and Austin, R. (1999). Computer conferencing: Does it Motivate EFL Students. *ELT Journal*, 53 (4), 270-279.
- So, J. and Brush, T. A. (2008). Student Perceptions of Collaborative Learning, Social Presence and Satisfaction in a Blended Learning Environment: Relationships and Critical Factors. *Computers & Education*, Vol 51, 318-336.
- Spector, J, Merrill, M, Merrienboer, J and Driscoll, M. (2008). *Handbook of Research on Educational Communications and Technology*. New York: Taylor and Francis.
- Vygotsky, L. (1978). *Interaction between Learning and Development. From Mind and Society*. Cambridge, MA: Harvard University Press.
- Wallace, M. (1996). *Action Research for Language Teachers*. Cambridge: Cambridge University Press.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Warschauer, M., and Meskill, C. (2000). *Technology and Second Language Learning*.

Mahwah, New Jersey: Lawrence Erlbaum.

Waste, J.A and Waste, M.L. (2008). *Using Wikis for Online Collaboration: The Power*

of the Read-Write Web. San Francisco: Jossey-Bass.

Appendices

Appendix 1 Consent Letter

CARTA DE CONSENTIMIENTO

Yo _____, aprendiz del curso de Técnico en Contabilidad del SENA, identificado con cédula de ciudadanía número _____ acepto de manera voluntaria que se me incluya como sujeto de estudio en el proyecto de investigación denominado: Promoting Collaborative Online Learning and Cognitive Apprenticeship via Synchronous Chat Tool at SENA English Courses. Luego de haber conocido y comprendido en su totalidad, la información sobre dicho proyecto, riesgos si los hubiera y beneficios directos e indirectos de mi participación en el estudio, y en el entendido de que:

- Mi participación como aprendiz no repercutirá en mis actividades ni evaluaciones programadas en el curso
- No habrá ninguna sanción para mí en caso de no aceptar la invitación.
- Puedo retirarme del proyecto si lo considero conveniente a mis intereses
- Se guardará estricta confidencialidad sobre los datos obtenidos producto de mi participación
- Puedo solicitar, en el transcurso del estudio información actualizada sobre el mismo, al investigador responsable: 007, email: 007.

Lugar y Fecha:

Nombre y firma del participante:

Appendix 2 – Students’ Survey

Encuesta

El objetivo de la siguiente encuesta es conocer su opinión sobre la interacción que los cursos virtuales de inglés en el SENA ofrece y si ésta favorece el aprendizaje de un idioma extranjero. Sus respuestas y opiniones son muy importantes para éste estudio por tal razón agradecemos su honestidad a la hora de responder. Al finalizar el proceso, un resumen de los resultados de éste cuestionario estará a su disposición. Si usted desea solicitarlo puede contactar al investigador: 007, vía e-mail (007@misena.edu.co).

Por favor conteste éste cuestionario de acuerdo con su experiencia personal en el aprendizaje virtual. Gracias por dedicar unos minutos para diligenciar el cuestionario.

1. ¿Qué tipo de actividades hay en un curso virtual de inglés?

2. De las actividades presentes en el curso virtual, seleccione en qué porcentaje trabajan cada habilidad:

Leer:

- a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100%

Escribir:

- a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100%

Escuchar:

- a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100%

Hablar:

- a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100%

3. De las siguientes herramientas presentes en la plataforma Blackboard 9.1 seleccione las que conoce:

- a. Foros de Discusión b. Sesiones en Línea c. Chats d. Sondeos

4. ¿De las herramientas presentes en la plataforma Blackboard 9.1, seleccione cuáles prefiere y diga por qué. Más de una opción es posible

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

a) Foros de Discusión ¿Por qué?

b) Sondeos ¿Por qué?

c) Chat ¿Por qué?

d) ¿Otra? ¿Por qué?

5. ¿Ha utilizado alguna herramienta virtual que le permita interactuar con su instructor o compañeros en tiempo real? Si la ha usado, favor escriba cuál.

a. Si b. No

En caso afirmativo, ¿Cuál herramienta?

6. ¿Cree que es importante interactuar con su instructor y compañeros en tiempo real durante la clase de inglés? ¿Por qué?

7. Señale con una (x), el porcentaje de interacción que se presentaba en los cursos virtuales con...

el instructor:

a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100% b) os otros estudiantes:

a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100% c)

el sistema (Blackboard 9.1)

a. 0-20% b. 21 -40% c. 41-60% d.61 -80% e. 81-100%

8. ¿Cuál es su opinión de los cursos de inglés en línea?

¡Gracias por su tiempo!

Appendix 3 Students' Interview

Interview

El objetivo de la siguiente entrevista es conocer su opinión en cuanto al uso del chat que realizó durante el curso de inglés. Esta entrevista será analizada sólo con objetivos investigativos así que tendrá anonimidad durante todo el proceso. Si usted desea información acerca de la investigación puede contactar al investigador: 007, vía e-mail (007@misena.edu.co).

1. ¿Cuál es su opinión acerca del uso del chat en un curso virtual de inglés del SENA?
2. ¿Cómo se sintió estudiando a través del chat? ¿Qué sentimientos le generó?
3. ¿Do you think the strategies let you interact with your instructor and classmates?
4. ¿Cuáles son las ventajas y desventajas de usar chat para el aprendizaje del inglés?
5. ¿Le gustaría seguir aprendiendo mediante el chat? ¿Por qué?
6. ¿Qué aspectos del trabajo en el chat considera se deben mejorar para otras sesiones?

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Appendix 4 Self-Assessment Checklist

Lista de Chequeo

El objetivo de la siguiente lista de chequeo es conocer su opinión en cuanto al desarrollo de las sesiones en línea que tomó en el curso de inglés. Con esto se pretende analizar la efectividad de integrar estrategias de aprendizaje colaborativo en los cursos virtuales de inglés que el SENA ofrece y así favorecer el aprendizaje significativo de nuestros aprendices. La lista de chequeo le permite auto-evaluarse y darse cuenta de que cosas puede mejorar, por tal razón, agradecemos su honestidad a la hora de responder. Si usted desea información acerca de la investigación puede contactar al investigador: 007, vía e-mail (007@misena.edu.co).

Por favor conteste a ésta lista de chequeo de acuerdo a su experiencia personal con el aprendizaje virtual. ¡Gracias por su tiempo!

Statement	☺	:/	☹
Access to the Chat Tool			
I could access to the chat tool easily			
The tool was used for educational purposes			
Teacher's Performance			
The session had an appropriate length for completing the assigned task			
The teacher guided the process during the activities			
The teacher had prepared the activity in advance			
The groups were assigned quickly			
The teacher explian turn-taking and development of the tasks			
Students' performance			
I had an active role during the sessions			
I evidenced some improvement in my learning after the session			
I could ask any question to my teacher			
I received an answer to my questions on time			
Feedback			
I could guide a friend during the session			
I could give some hints to a friend in order to develop a task			
My peers gave me the appropriate feedback I needed			

Other comments: _____

Appendix 5 Sample of chat transcripts

Modeling

G: Hello, what pict 1 please ?

Enviado a la(s) 9:37 del viernes

Y: **I do it.** pict 1 there is a rectangle outside the circle at the top
there is a square outside the circle at the bottom.

Enviado a la(s) 9:39 del viernes

Y: there is a triangle outside the circle at the right

Enviado a la(s) 9:40 del viernes

Y: there is a oval inside the circle to the left
ok

what pict 2 please

Enviado a la(s) 9:44 del viernes

G: **ok I can**
there is a moon outside the circle at the top

Y: ok

G: there is heart inside the circle to the right
there is a oval inside the circle to the left
there is a rectangle inside the circle at the bottom

Y: ok

G: what pict 3 please !

yo: **thanks**

ok

one moment

Enviado a la(s) 9:49 del viernes

Y: there is a heart inside the circle to the right
there is a star inside circle at the bottom
there is a triangle outside the circle to the right
ok

yes or no?Help!

Appendix 6 Worksheets Modeling Activity

Information Gap Activity: Getting to know you

Student A

Family tree

Trio

A

Before: Look at the family tree, and read your information.
With B and C fill in all the spaces.

Start: *Hi* *Hi* *Hi*
Let's work together *Sure* *Sure*
What information do you have?

How do you spell (name)?

Mike is Ron's uncle. Emma's grandfather is Sam.
 Jacob has two children. Harry is Ron's older brother.

End: *Thank you* *Thank you* *Thank you*

Student B

Family tree

Trio

B

Before: Look at the family tree, and read your information.
With A and C fill in all the spaces.

Start: *Hi* *Hi* *Hi*
Let's work together *Sure* *Sure*
What information do you have?

How do you spell (name)?

Rita is Mike's mother. Lisa is Jacob's sister.
 Emma is Jacob's niece. Sam is Rita's husband.

End: *Thank you* *Thank you* *Thank you*

Appendix 7 Worksheet Coaching Activity

GRAMMAR FOCUS: COMPARATIVES

There are many ways to compare things. Often, we use an adjective and one of the following sentences patterns:

Expressions for Comparing Two Objects	
cheap, easy to use	cheaper (than), easier to use (than)
comfortable, powerful	more comfortable (than), more powerful (than)
not cheap, not comfortable	not as cheap (as), not as comfortable (as)



As a class: Look at the advertisements below and make comparisons between the products:

COOL WALKERS
 inexpensive,
 comfortable,
 easy to clean
 with tax, Just \$39.00

Advantages of Cool Walkers

- (1) Cool Walkers are *not as expensive as* Slim Jimms.
 (2) _____
 (3) _____

SLIM JIMMS
 with tax, only \$47.00
 Famous,
 High quality,
 Fashionable.

Advantages of Slim Jimms:

- (1) Slim Jimms are *more durable than* Cool Walkers.
 (2) _____
 (3) _____

Work in pairs. Compare these items. Write your comparisons down in your workbook or on a separate piece of paper. (Teachers, lengthen it: A longer more in-depth activity is available from the teacher's manual).

LUMBER JACK BURGER
 spicy delicious filling
 \$7.99

THE BOSS Z42
 comfortable, powerful, roomy

fast, affordable, easy to install.
ACCOUNT DOCTOR
 SOFTWARE

VEGETARIAN SUB
 not greasy low in fat healthy
 \$6.99

THE VOOMETTE
 inexpensive, compact, environmentally friendly

safe, easy to use, reliable
BUDGET MASTER
 SOFTWARE

IDIOM CORNER:



That's like comparing apples and oranges.
 This means that two things are so different that you can't compare them.

INCORPORATING THE COGNITIVE APPRENTICESHIP MODEL TO ENHANCE
ONLINE COLLABORATIVE LEARNING WITH CHAT TOOL

Appendix 8 Worksheets Scaffolding Activity

Student A

Show that the accounting equation is satisfied after taking into consideration each of the following transactions in the books of Mr. N

- a. Started business with capital Rs. 1,00,000
- b. Bought furniture Rs. 25,000
- c. Bought goods for cash Rs. 20,000
- d. Bought goods from Ram on Credit Rs. 5,000
- e. Sold goods for cash for Rs. 15,000
- f. Sold goods to Shyam on credit Rs. 8,000
- g. Paid cash to Ram Rs. 4,000
- h. Received cash from Shyam Rs. 5,000
- i. Paid Cash into Bank Rs. 25,000
- j. Withdrawn from bank Rs. 10,000

Student B

(a)

Capital	+	Liabilities	=	Assets
1,00,000	+	0	=	Cash (1,00,000)

(b)

Capital	+	Liabilities	=	Assets
1,00,000	+	0	=	Cash (75,000) + Furniture (25,000)

(c)

Capital	+	Liabilities	=	Assets
1,00,000	+	0	=	Cash (55,000) + Furniture (25,000) + Goods (20,000)

(d)

Capital	+	Liabilities	=	Assets
1,00,000	+	Ram (5,000)	=	Cash (55,000) + Furniture (25,000) + Goods(25,000)

(e)

Capital	+	Liabilities	=	Assets
1,00,000	+	Ram (5,000)	=	Cash (70,000) + Furniture(25,000) + Goods(10,000)

(f)

Capital	+	Liabilities	=	Assets
1,00,000	+	Ram (5,000)	=	Cash (70,000) + Furniture (25,000) + Goods (2,000) + Shyam (8,000)

(g)

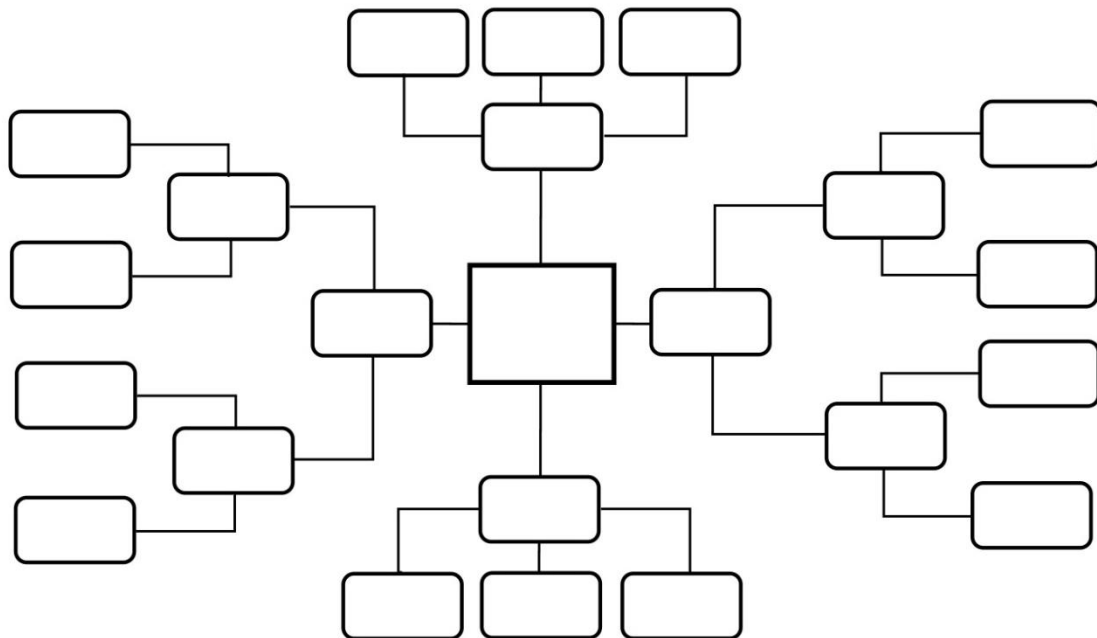
Capital	+	Liabilities	=	Assets
1,00,000	+	Ram (1,000)	=	Cash (66,000) + Furniture (25,000) + Goods (2,000) + Shyam (8,000)

(h)

Capital	+	Liabilities	=	Assets
1,00,000	+	Ram (1,000)	=	Cash (71,000) + Furniture (25,000) + Goods (2,000) + Shyam (3,000)

<http://www.helpteaching.com/questions/18860/the-chart-of-accounts-for-baker-company-a-wholesale-merchant>

Appendix 9 Mind-MapSelf-reflection Activity



www.mindomo.com