

Interaction Equivalency Theorem: The 64-Interaction Design Model and Its Significance to Online Teaching

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Outline

- The Interaction Equivalency (EQuiv) Theorem
- Brief Overview of the EQuiv Research
- Guidelines for the EQuiv Theorem Research
- The EQuiv 64-Interaction Design Model
- The EQuiv Interaction Design and Cost Issues

EQ*uiv*

= Interaction **E**quivalency Theorem

The Interaction Equivalency Theorem by Anderson (2003)

- **Thesis 1.** Deep and meaningful formal learning is supported as long as one of the three forms of interaction (student–teacher; student–student; student–content) is at a high level. The other two may be offered at minimal levels, or even eliminated, without degrading the educational experience.
- **Thesis 2.** High levels of more than one of these three modes will likely provide a more satisfying educational experience, although these experiences may not be as cost- or time effective as less interactive learning sequences.

Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *The International Review of Research in Open and Distance Learning (IRRODL)*, 4(2).

History of Interaction in DE

Student-Content

Student-Content,
Student-Teacher

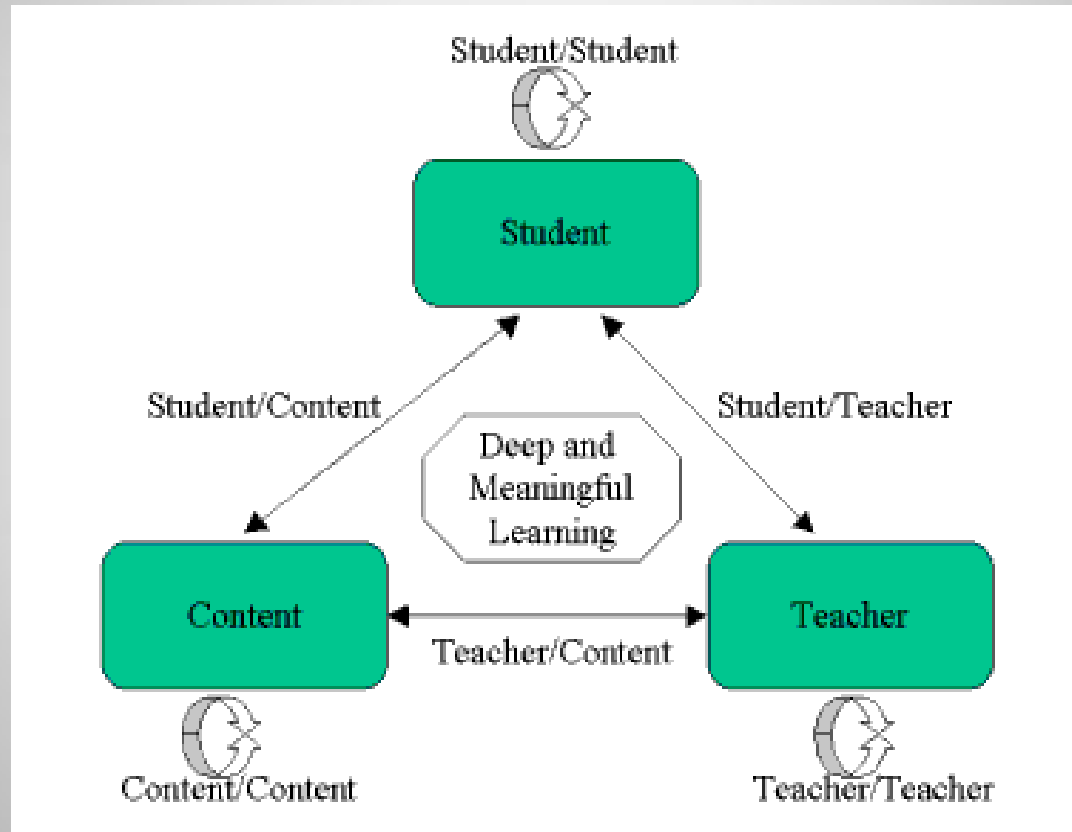
Student-Content,
Student-Teacher,
Student-Student

Moore, M. (1989). Editorial: Three types of interaction. *The American Journal of Distance Education (AJDE)*, 3(2), 1-7.

Getting the Mix Right History...

- Daniel, J., & Marquis, C. (1979). Interaction and independence: **Getting the mixture right**. *Teaching at a Distance*, 15, 25-44.
- Anderson, T. (2003). **Getting the mix right again**: An updated and theoretical rationale for interaction. *The International Review of Research in Open and Distance Learning (IRRODL)*, 4(2).
- (Miyazoe, T. (2012). **Getting the Mix Right Once Again**: A Peek into the Interaction Equivalency Theorem and Interaction Design. ALT Online News Letter.)

Modes of Interaction



Garrison and Anderson (2003)

EQuiv Visualization

Thesis 1: Quality

High	Student-Content	=	Student-Teacher	=	Student-Student
Mid	Student-Content	=	Student-Teacher	=	Student-Student
Low	Student-Content	=	Student-Teacher	=	Student-Student

If one kind of interaction is at a high level, one of them is ultimately enough?

Thesis 2: Quantity

Student-Content	Student-Teacher	
Student-Content	Student-Teacher	
Student-Content	Student-Teacher	Student-Student



Increased interaction = Higher satisfaction but more costs and time?

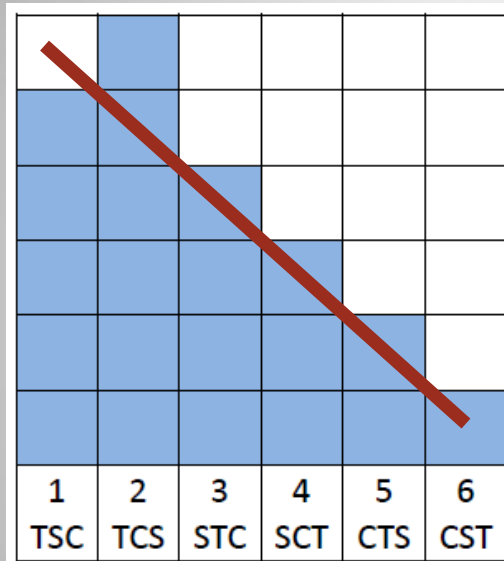
Learning Modes

*TSC: Teacher-Student-Content

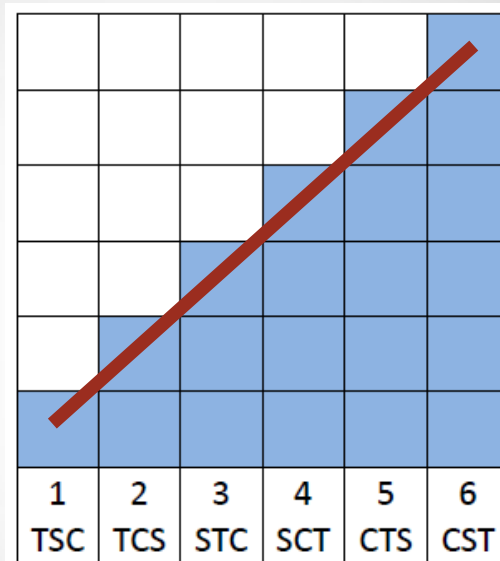
Important



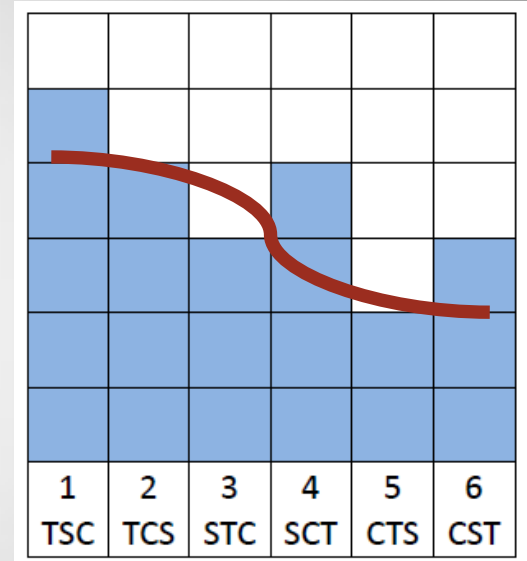
Unimportant



Face-to-face



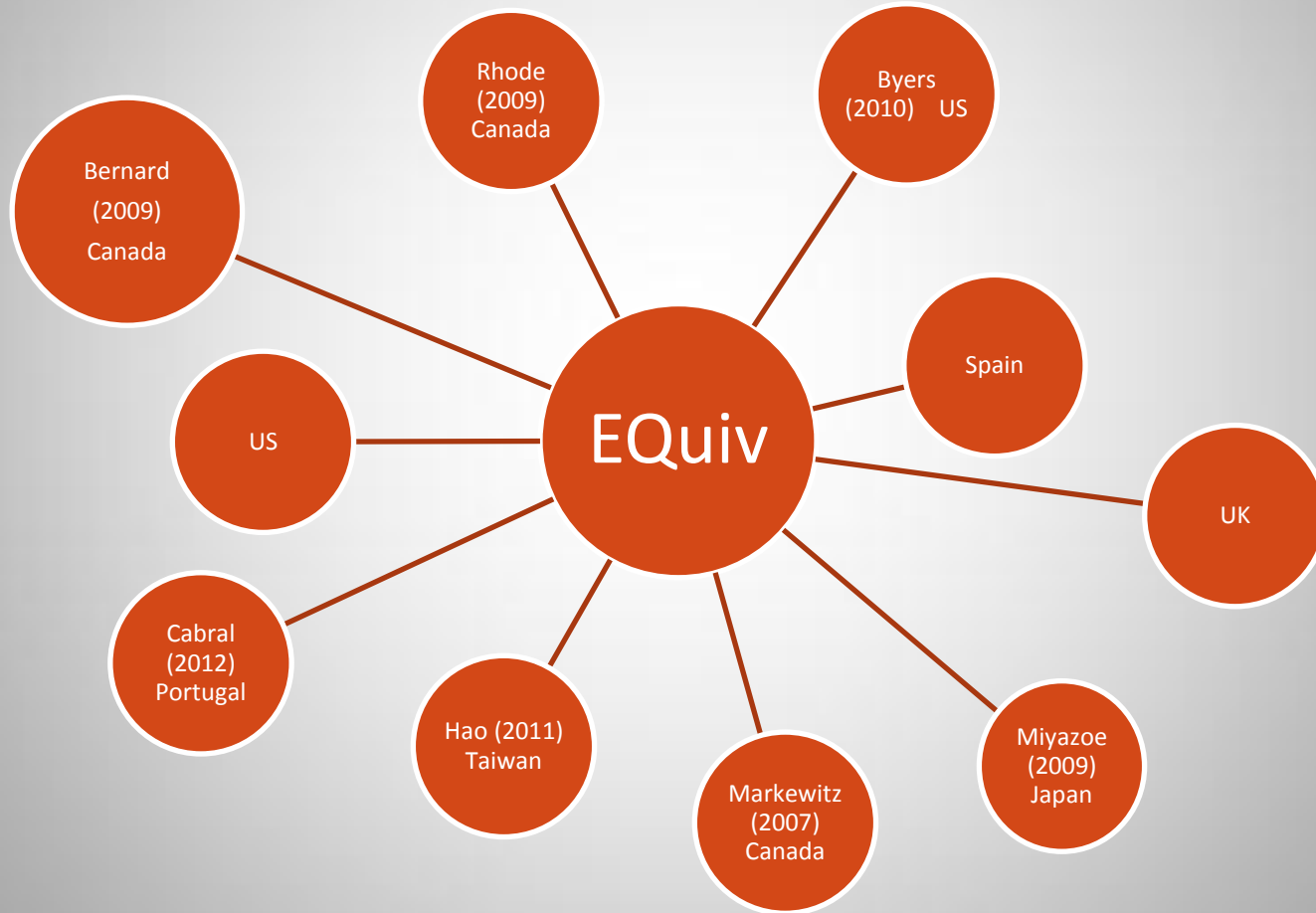
Online DE



Blended

Miyazoe, T., & Anderson, T. (2010b). Empirical research on learners' perceptions: Interaction Equivalency Theorem in blended learning, *European Journal of Open, Distance and E-Learning (EURODL)*.

The EQuiv Worldwide



The EQUiv Guidelines

1. All three axes (learner–content, learner–teacher, and learner–learner) constitute the research core for the analysis.
2. Research speculates on quality and/or quantity issues in the optimal dose/balance of interaction.
3. Research speculates on the outcomes of learning experiences, such as meaningfulness, learning outcomes, satisfaction, and cost/time issues.

Cost Issues in Interaction Design (ID)

3 \$s

High	\$		
Mid	\$		
Low	\$		
	SC	ST	SS

Interaction Design A

6 \$s

High			
Mid	\$	\$	\$
Low	\$	\$	\$
	SC	ST	SS

Interaction Design B

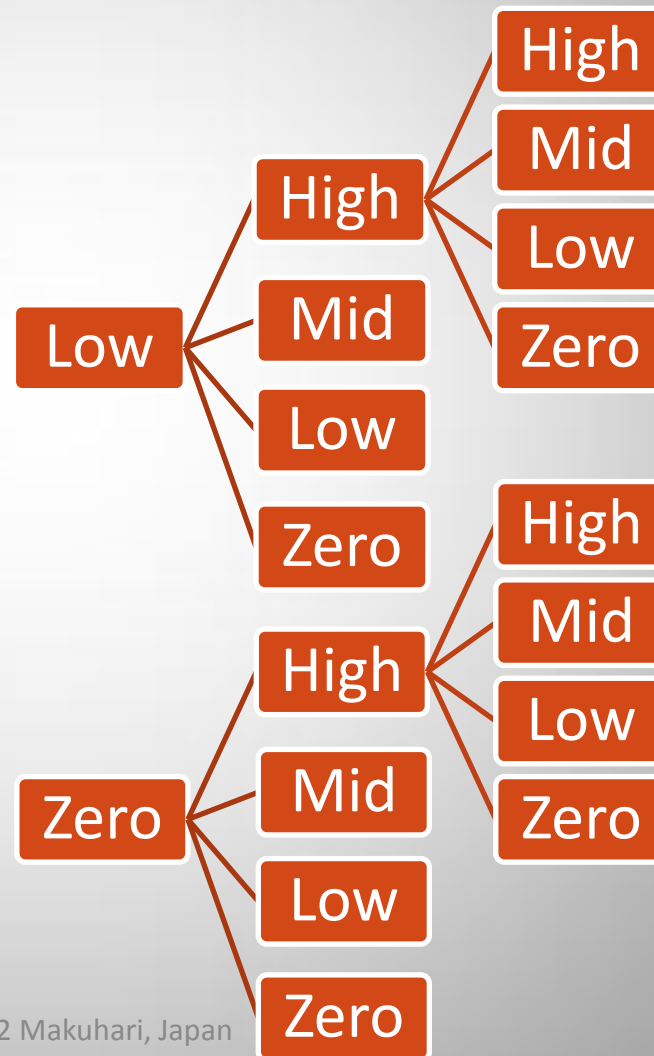
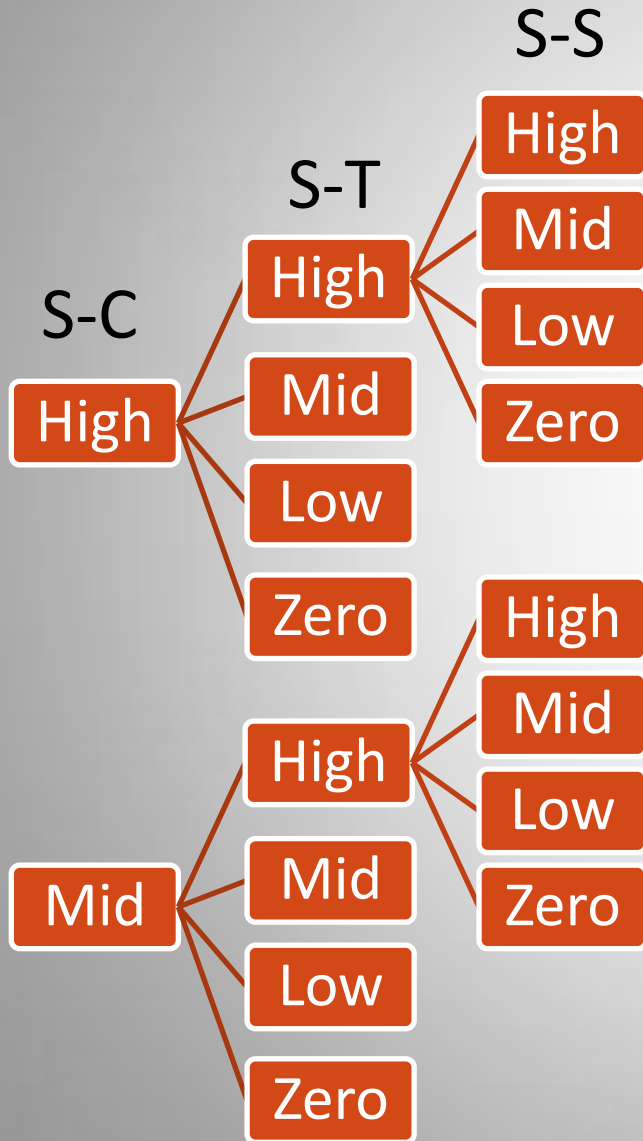
7 \$s

High	\$		\$
Mid	\$		\$
Low	\$	\$	\$
	SC	ST	SS

Interaction Design C

*SC: Student-Content, ST: Student-Teacher, SS: Student-Student

The EQuiv 64-Interaction Designs



4x4x4
= 64

Appendix:

64 possible interaction designs in terms of quality/quantity

	Quality/Quantity of each interaction type			Thesis situation
1	High SC	High ST	High SS	
2			Middle SS	
3			Low SS	
4			No SS	
5		Middle ST	High SS	
6			Middle SS	
7			Low SS	
8			No SS	
9		Low ST	High SS	
10			Middle SS	
11			Low SS	Thesis 1 situation
12			No SS	
13		No ST	High SS	
14			Middle SS	
15			Low SS	
16			No SS	Thesis 1 situation
17	Middle SC	High ST	High SS	
18			Middle SS	
19			Low SS	

Equivalency Theorem Website

The screenshot shows a web browser window with the following elements:

- Browser Address Bar:** <http://equivalencytheorem.info/>
- Browser Tabs:** "The Interaction Equivale...", "Getting the Mix Right Once..."
- Browser Menu:** ファイル(F), 編集(E), 表示(V), お気に入り(A), ツール(T), ヘルプ(H)
- Website Title:** The Interaction Equivalency (Equiv) Website
- Website Subtitle:** The Equivalency Theorem information sharing space
- Image:** A decorative banner image featuring musical notes and a large blue 'W' logo.
- Navigation Menu:** Home, Equivalency Theorem, Interaction Theories, EQiv Research, Community of Inquiry, EQiv Applications, Contact
- Main Content Area:**
 - Home:** This website is designed to share information on the [Interaction Equivalency Theorem](#) posited by Terry Anderson (2003).
 - Text:** In a nutshell the theory posits that if any one of student-student, student-teacher or student-content interaction is of a high quality, the other two can be reduced or even eliminated without impairing the learning experience—thus creating means of developing and delivering education that is cost affordable for all of us.
 - CC NC SA**
- Sidebar:**
 - Recent Posts:** Welcome to The Interaction Equivalency Site
 - Recent Comments:** terumi on Equivalency Theorem
 - Meta:** Log in, Entries RSS, Comments RSS, WordPress.org
 - Search:** Search
- Footer:** The Interaction Equivalency (Equiv) Website, Proudly powered by WordPress.

Thank you for your attention!
Your Comments/Questions Welcomed

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References

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- Anderson, T., & Garrison, R. (1998). Learning in a networked world: New roles and responsibilities. In C. Gibson (Ed.), *Distance learners in higher education* (pp. 97-112). Madison, WI: Atwood Publishing.
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- Miyazoe, T., & Anderson, T. (2010a). The interaction equivalency theorem. *Journal of Interactive Online Learning*, 9(2), 94-104, available at <http://www.ncolr.org/>
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- Moore, M. (1989). Editorial: Three types of interaction. *The American Journal of Distance Education*, 3(2), 1-7.