Second Language Learning Motivation and Cooperative Learning: Does it Enhance ESL Chinese Students Critical Thinking?

Dr. Leah Li V. Echiverri
The Future of Education, Florence, June 20, 2024

Presentation Outline

01 Background and Purpose of the Study

02 Conceptual Framework

03 Methodology

04 Findings and Discussion

05 Conclusion and Recommendations

Second Language (2L) Learning Motivation

Integrative Motivation

- Desire to integrate and interact with the relevant cultural community (Gardner et al., 1978).

- Ideal L2 Self refers to the qualities L2 learners would like to possess (Dörnyei, 2003).

Instrumental Motivation

- External requirements/pressure – to achieve practical goals (Gardner et al., 1978).

- Learning situation – stimulation from outside – teachers, class activities, cooperation with others (Dörnyei, 2003).

Socio-educational model of SLA
Gardner et al. (1978) :Dornyei (2003)

L2 Learning Motivation
Integrative Motivation:
- Desire to integrate to the community
- Desire to learn its culture
- Ideal L2 Self

Instrumental Motivation:
- External Requirements
- Learning Situation

SECOND LANGUAGE Acquisition

Second Language (2L) Learning Motivation and Critical Thinking (CT)

Piaget (1950)

- Language serves as a vehicle for articulating and molding human thinking.

Li (2016).

- The essence of critical thinking (CT) lies in thinking skills.

- CT has gained increasing prominence in language pedagogy.

Research Findings

Wang & Henderson (2014) ; Liaw (2007)

- CT can facilitate the acquisition of language learning and language proficiency.

Fahim & Hajimaghsoodi (2014)

- A positive relationship between motivation and critical thinking of EFL students.

What is Critical Thinking (CT)?

A way of thinking based on evidence and reasoning (Cottrell, 2017).

Two dimensions of CT: Cognitive Skills and Dispositions (Delphi Report, Facione, 1990)

Cognitive Process

Critical Thinking Disposition

Critical Thinking

Cognitive skill:
- Interpretative Analysis
- Inference
- Evaluation
- Explanation
- Self-Regulation

Dispositions:
- Confidence
- Open Mindset
- Fairness & Objectivity
- Skepticism
- Systematicity

Start here, go anywhere

Research Purpose:

L2 Learning Motivation and Critical Thinking (CT)

- To determine the relationship between L2 learning motivation and critical thinking.

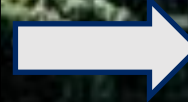To describe the motivation level of L2 learners.

L2 Learning Motivation

Integrative Motivation:
- Desire to integrate to the community
- Desire to learn its culture
- Ideal L2 Self

Instrumental Motivation:
- External Requirements
- Learning Situation

Critical Thinking

Cognitive skill:
- Interpretative Analysis
- Inference
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Dispositions:
- Confidence
- Open Mindset
- Fairness & Objectivity
- Skepticism
- Systematicity

To describe the L2 learners' level of critical thinking.

Cooperative Learning and Critical Thinking (CT)

Effective Instructional Strategy?

- leads language proficiency
- enhances critical thinking

Combination of Cooperative Learning and Critical Thinking

- Enhances students' overall learning experience and prepares them for future challenges (Fung et al.,2016).

- Leads to substantial educational advancements (Hammond et al., 2020)

Cooperative Learning and Critical Thinking (CT)

Fung et al. (2016).

- Group work students have better critical thinking skills than those who study in the conventional class pattern.

Klimovienė et al., (2006)

- Enhanced critical thinking skills compared to those in traditional, non-collaborative settings.

Thadphoothon, (2002)

- cooperative learning strategies can significantly sharpen students' critical thinking.
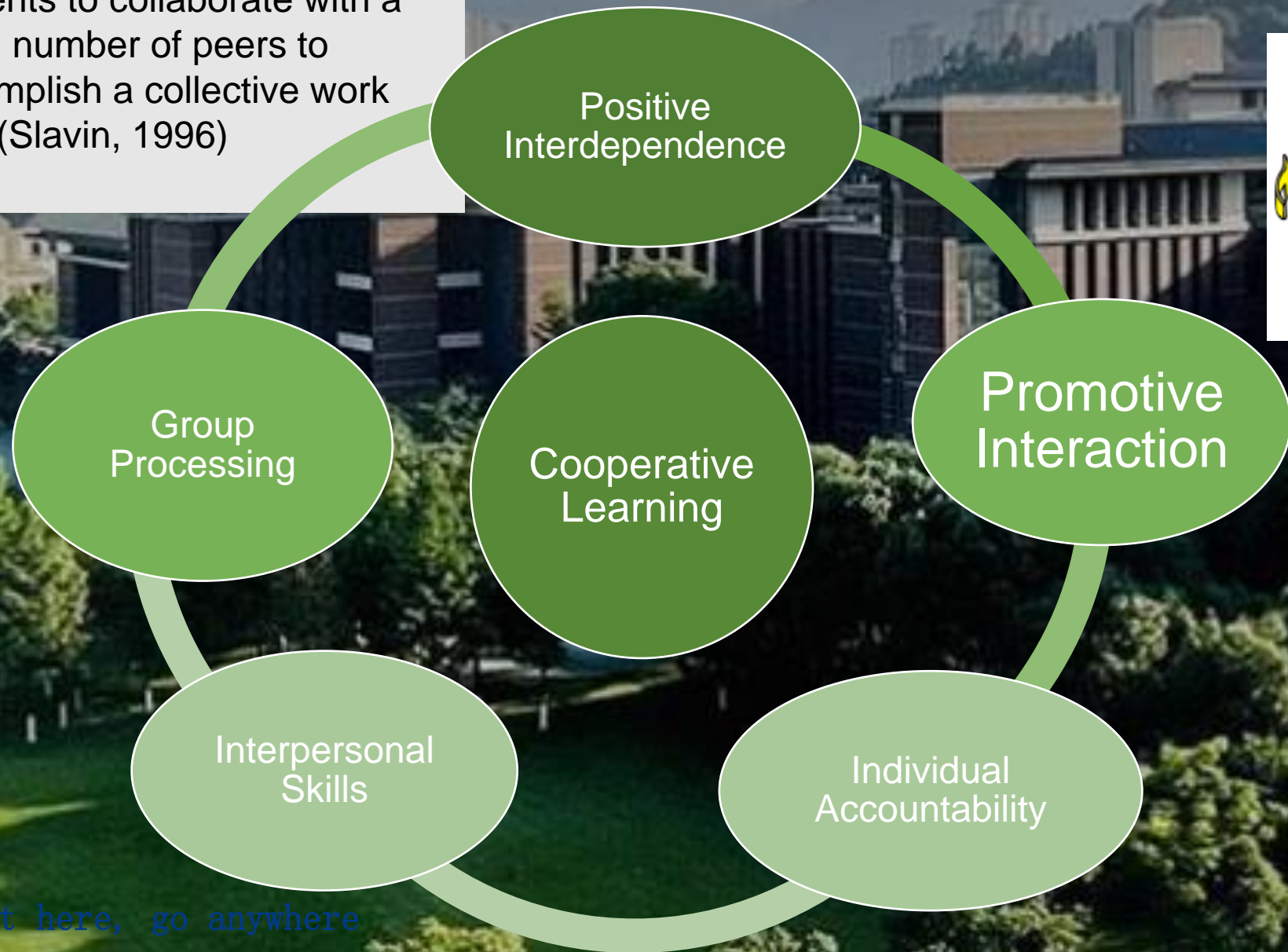

Research Findings

Devi et al. (2015)

- Creates an environment that encourages active participation, collaboration, and critical analysis.

Hammond et al. (2020)

- Actively examines, clarifies, and elaborates their ideas, and collaboratively devises solutions.

Cooperative Learning

Cooperative learning is an instructional strategy that allows students to collaborate with a small number of peers to accomplish a collective work goal (Slavin, 1996)

Positive Interdependence

Group Processing

Cooperative Learning

Promotive Interaction

Interpersonal Skills

Individual Accountability

Positive Interdependence

Individual Accountability

Equal participation

Simultaneous Interaction

Promotes both academic engagement and a sense of community among sudents

Develops their ability to think critically, evaluate information, and make informed decisions

Start here, go anywhere
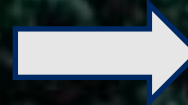
Research Purpose:

Cooperative Learning and Critical Thinking (CT)

- To determine the relationship between cooperative learning and critical thinking.

To describe the level of L2 learners' cooperative skills.

Cooperative Learning
- Positive interdependence
- Promotive Interaction
- Individual accountability
- Interpersonal skills
- Group processing

Critical Thinking
Cognitive skill:
- Interpretative Analysis
- Inference
- Evaluation
- Explanation
- Self-Regulation

Dispositions:
- Confidence
- Open Mindset
- Fairness & Objectivity
- Skepticism
- Systematicity

Methodology

Methodology

Research/Study Design

Descriptive-correlation Cross-Sectional Study Design

Sampling Size

400 ESL Research Participants
197 (49.25%)
Chinese traditional universities
203 (50.75%)
Sino-Foreign Universities

Research Instrument/ Data Collection

Questionnaire link on sojump was emailed and posted on WeChat for potential respondents to access

Reliability Testing

Cronbach's alpha
(.81; .85; .86 strong reliability alpha coefficient)

Methodology

Likert Scale Interpretation

Response Scale	Degree of Agreement	Descriptive Interpretations			Mean Interval
		2L Learning Motivation	Cooperative Learning	Critical Thinking Skills	
5	Strongly Agree	Extremely Motivated	Very Good	Very high	4.51-5.00
4	Agree	Very Motivated	Good	High	3.51-4.50
3	Neutral	Moderately Motivated	Fair	Average	2.51-3.50
2	Disagree	Slightly Motivated	Poor	Low	1.51-2.50
1	Strongly Disagree	Not motivated at all	Very Poor	Very Low	1.00-1.50

For respondents to describe their perceptions, the instrument provided a five-point Likert scale with the following interpretations accordingly.

Legend: Strongly Agree (4.51-5.00); Agree (3.51-4.50); Neutral (2.51-3.50); Disagree (1.51-2.50); Strongly Disagree (1.00-1.50).

Findings and Discussion

Results & Discussion

First   01

Descriptive Analysis

2L Learning Motivation Critical Thinking Cooperative Learning

Second   02

Correlation Analysis

Correlation of 2L Learning Motivation and Critical Thinking

Correlation of Cooperative Learning and Critical Thinking

Research Participants' LEVEL OF 2L LEARNING MOTIVATION

Descriptive Analysis

Integrative Motivation (Very Motivated)

- to converse with their English-speaking friends
- to use the English language when going overseas
- to speak more languages

Dimensions	Behavioral Indicators	Mean X̄	Mean of X̄s	SD
Desire to integrate into the community	I want to learn English because I want to be able to converse with English speakers when I travel.	3.73	3.68	1.05
	I want to learn English because I want to use it with English-speaking friends.	3.63		1.07
Desire to learn the culture	I want to learn English because I am interested in the culture, history, and literature of English-speaking countries.	3.34	3.34	1.14
L2 Ideal Self	I can imagine myself living abroad and having a discussion in English.	3.59		1.14
	Whenever I think of my future career, I imagine myself using English.	3.38	3.57	1.16
	I want to learn English because I want to be able to speak more languages than just Mandarin.	3.73		1.06

Legend: Extremely Motivated (4.51-5.00); Very Motivated(3.51-4.50); Moderately Motivated (2.51-3.50); Slightly Motivated (1.51-2.50); Not Motivated (1.00-1.50).

Descriptive Analysis

Instrumental Motivation (Very Motivated)

- gives a competitive advantage in future employment
- to meet the university's foreign language requirement
- enthusiastic teachers' personality

External Requirements	I want to learn English because I feel English is an important language in the world.	3.26		1.12
	I want to learn English because I think foreign language study is part of a well-rounded education	3.66	3.65	1.01
	I want to learn English because I need it to fulfill the university's foreign language requirement.	3.82		0.98
	I want to learn English because it may make me a more qualified job candidate.	3.88		1.02
Learning Situation	I want to learn English because I have good relationships with classmates, which makes the class climate relaxing.	3.42	3.51	1.11
	I want to learn English because the enthusiastic personality of teachers makes them easy to talk and interact with.	3.59		1.11
Overall L2 Learning Motivation			3.58	

Legend: Extremely Motivated (4.51-5.00); Very Motivated(3.51-4.50); Moderately Motivated (2.51-3.50); Slightly Motivated (1.51-2.50); Not Motivated (1.00-1.50).

Research Participants' LEVEL OF CRITICAL THINKING SKILLS

Descriptive Analysis

Cognitive Skills (High)

- Analyze relevant information to deduce the consequences arising from judgments, beliefs, opinions, or other forms of representation.

- Make conclusions based on verifiable references and logical reasoning supported by the evidence attached.

Dimensions	Behavioral Indicators	Mean X̄	Mean of X̄s	SD
Interpretative Analysis	I can correlate information gained with solving concepts and strategies.	3.65	3.53	0.93
	I use abstract ideas to interpret the information effectively.	3.41		0.98
Inference	I can identify and ensure the needed elements to draw reasonable conclusions.	3.62	3.64	0.93
	I consider relevant information to deduce the consequences flowing from evidence, judgments, beliefs, opinions, or other forms of representation.	3.66		0.94
Evaluation	I verify the referential and supportive evidence.	3.70	3.63	0.97
	I re-check each solving step and re-reviewing identified information.	3.57		1.03
Explanation	I draw conclusions based on logical reasons, supported by attaching evidence.	3.77	3.69	0.96
	I present well-reasoned explanations for the statement, descriptions, questions, or other forms of representation.	3.62		0.96
Self-Regulation	I can self-consciously monitor my cognitive activities, the elements used in those activities, and the results produced.	3.58	3.60	0.96
	I can apply solutions and use gained strategies to solve problems.	3.63		0.96
Overall CT Cognitive Skills			3.62	0.75

Legend: Very High (4.51-5.00); High (3.51-4.50); Average (2.51-3.50); Low (1.51-2.50); Very Low(1.00-1.50)

Research Participants' LEVEL OF CRITICAL THINKING SKILLS

Average →

Descriptive Analysis

CT Disposition (High)

- accept willingly the proven truth despite having differing viewpoints

- persist in questioning established facts and actively seek additional information to aid in problem-solving

- use a systematically organized data in solving problems

Confidence	I think I can get through any complicated problem.	3.20	3.30	1.03
	I persevere in handling difficult situations and challenges.	3.41		0.97
Open Mindset	I am trying to understand how the unknown thing works.	3.62	3.66	0.97
	I continually look for pieces of information related to solving a problem.	3.69		0.93
Fairness & Objectivity	I evaluate either my opinion or others' opinions fairly.	3.66	3.70	0.96
	I willingly accept the proven truth, though having a different opinion.	3.74		0.98
Skepticism	When I see the world, I see it with a questioning mind.	3.56	3.61	1.01
	Although something is already set firmly, I have questions about it.	3.65		1.00
Systematicity	When I solve or judge a problem, I utilize a collection of data by organizing it systematically.	3.57	3.60	0.93
	I am able to collect various factual evidence and then work out the differences, similarities or rules.	3.64		0.91
Overall CT Disposition			3.57	0.71
Overall Critical Thinking Skills			**3.60**	0.69

Legend: Very High (4.51-5.00); High (3.51-4.50); Average (2.51-3.50); Low (1.51-2.50); Very Low(1.00-1.50)

Research Participants' COOPERATIVE LEARNING SKILLS

Descriptive Analysis

Cooperative Learning (Good)

- Value contributions (shared resources and information)

- Identify individual responsibility accountability when designing cooperative learning tasks and reward structures

- Endeavor to participate in discussion and debates and listen to others' shared information

Decide which behaviors to modify or continue to achieve their goals and maintain effective working relationship
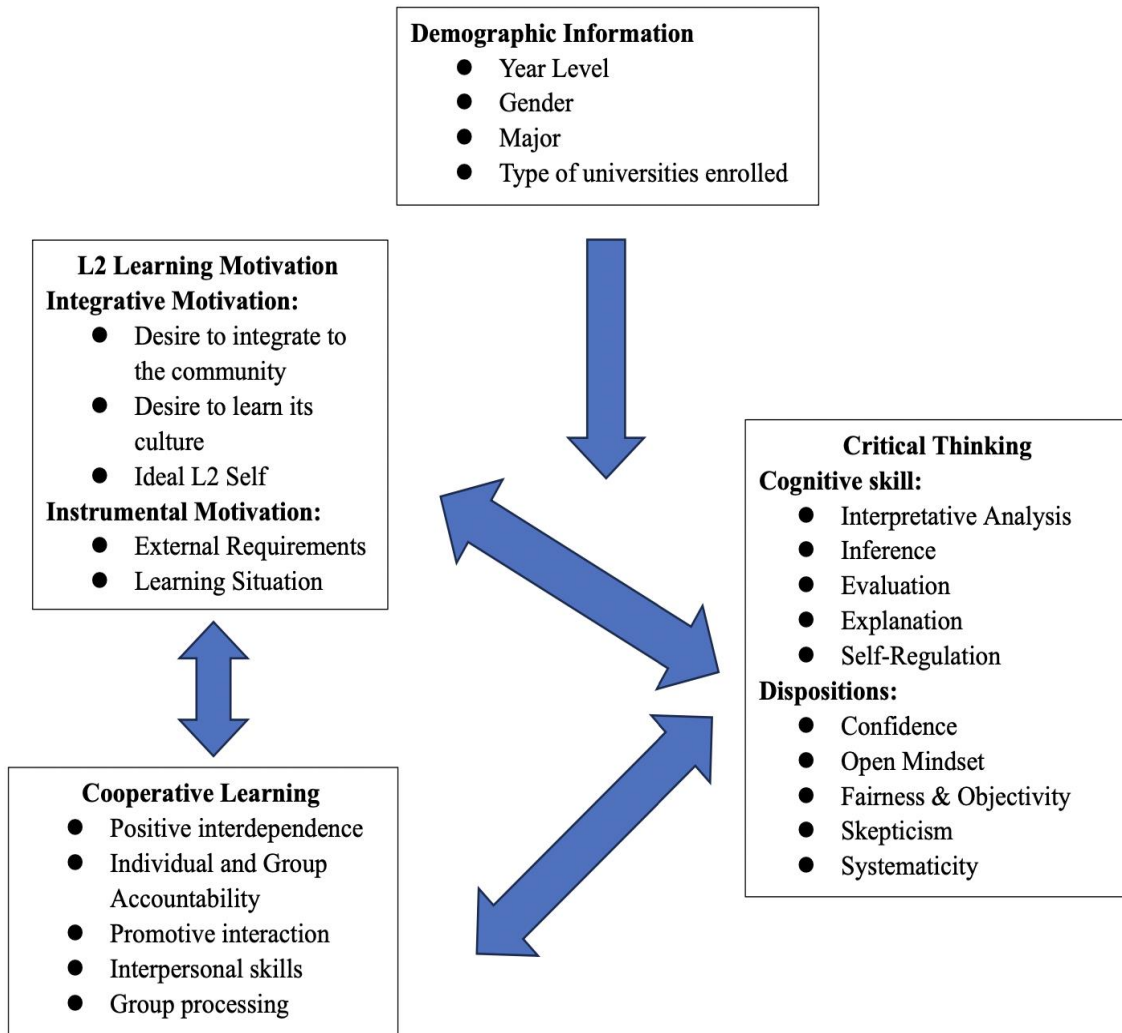
Dimensions	Behavioral Indicators	Mean X̄	Mean of X̄s	SD
Positive Interdependence	In working cooperatively, I think the contribution of each group member is important.	4.20	4.0	1.01
	In working cooperatively, I share resources and information to complete the tasks.	3.79		1.01
Individual Group Accountability	When working cooperatively, I strive to participate in the group's activities.	3.94	3.9	0.965
	In working cooperatively, individual responsibility and accountability can be identified when designing cooperative learning tasks and reward structures.	3.91		0.996
Promotive Interaction	In cooperative activities, I can relate with other members and interact during the tasks.	3.88	3.8	0.971
	In working cooperatively, I work face-to-face with my groupmates.	3.79		1.02
Interpersonal Skills	In working cooperatively, I work on discussing, debating, and listening to others.	4.00	3.7	0.960
	Working cooperatively, I can manage disagreements and conflicts between group members.	3.47		0.991
Group Processing	In working cooperatively, members talk to each other to make sure that everyone in the group knows what is being done.	3.75	3.8	0.996
	In working cooperatively, members make decisions about what behaviors to continue or change to achieving their goals and maintaining effective working relationships.	3.90		0.927
Overall Cooperative Learning Skills		**3.86**		0.772

Legend: Very good (4.51-5.00); Good (3.51-4.50); Fair (2.51-3.50); Poor (1.51-2.50); Very Poor(1.00-1.50).

To determine the influence of L2 learning motivation and cooperative learning on enhancing critical thinking.

Demographic Information
- Year Level
- Gender
- Major
- Type of universities enrolled

L2 Learning Motivation
Integrative Motivation:
- Desire to integrate to the community
- Desire to learn its culture
- Ideal L2 Self

Instrumental Motivation:
- External Requirements
- Learning Situation

Cooperative Learning
- Positive interdependence
- Individual and Group Accountability
- Promotive interaction
- Interpersonal skills
- Group processing

Critical Thinking
Cognitive skill:
- Interpretative Analysis
- Inference
- Evaluation
- Explanation
- Self-Regulation

Dispositions:
- Confidence
- Open Mindset
- Fairness & Objectivity
- Skepticism
- Systematicity

Is there a significant relationship between L2 learning motivation and Critical Thinking?

Is there a significant relationship between Cooperative Learning and Critical Thinking?

Correlation Analysis

Is there a significant relationship between L2 learning motivation and Critical Thinking?

Table 4. Relationship between 2L Learning Motivation and Critical Thinking

Second Language	Critical Thinking Cognitive Skills (CTCS)				Explanation	Self-Regulation					Overall CTD	Critical Thinking
				.49**	.51**	.54*	.48**	.51**	.50**	0.	.54**	.60**	.66**
				.39**	.45			*			1**	.50**
L2 Ideal Self	.46**	.50**	.45**	.48**	.53			*		3**	.62**
Integrative Motivation	.50**	.51**	.46**	.52**	.58			*		7**	.64**
External Requirements	.45**	.51**	.50**		.54**	.57**	.46**	.52**	.56**		.57**	.62**	.63**
Learning Situation	.45**	.41**								.54**	.57**	.55**
Instrumental Motivation	.49**	.50**								.61**	.65**	.65**
L2 Learning Motivation	.53**	.55**								.64**	.71**	.69**

**Correlation is significant at the 0.01 level

- Desire to make friends and interact with English speakers
- Engage in English discussions when they travel and live overseas

- Self-conscious about their cognitive activities and the elements used in problem-solving

Analyze and evaluate their reasoning and the outcomes they achieve

Gather diverse factual information and systematically organize and categorize facts

In *integrative motivation*, the participant's desire to integrate into the community and L2 ideal self have a moderate positive correlation with CTCS self-regulation ($r = .58$) and CTD systematicity ($r = .59$).

Is there a significant relationship between L2 learning motivation and Critical Thinking?

Table 4. Relationship between 2L Learning Motivation and Critical Thinking

	Critical Thinking Cognitive Skills (CTCS)					Critical Thinking Dispositions (CTD)								Critical Thinking
					Self-regulation	Overall CTCS								
Desire to learn the culture					.51**	.54**	.48**	.51**	.50**	0.47**	.54**	.60**	.66**
	.38**	.37**	.32**	.39**	.45**								
L2 Ideal Self	.46**	.50**	.45**	.48**	.53**								
Integrative Motivation	.50**	.51**	.46**	.52**	.58**								
External Requirements	.45**	.51**	.50**	.50**	.54**	.57**	.46**	.52**	.56**	.47**	.57**	.62**	.63**
Learning Situation	.45**	.41**	.36**	.40**	.47**	.48**	.48**	.46**	.42**	.45**	.54**	.57**	.55**
Instrumental Motivation											.61**	.65**	.65**
L2 Learning Motivation											.6		.69**

**Correlation is significant at the 0.01 level

External Requirements:
- give competitive advantage in work opportunities
- meet course college requirements
- acquire other languages for a well-rounded education.

- Enhanced CTCS and CTD

In *instrumental motivation*, it indicated a significantly moderate positive relationship between the external environment and CTCS self-regulation (r = .55) but a strong positive relationship between the external environment and CTD systematicity (r = .61).

Accept H_1, L2 learning motivation and critical thinking have a **significantly strong positive correlation** (r = .69).

Correlation Analysis

Is there a significant relationship between Cooperative Learning and Critical Thinking?

Table 5. Relationship Between Cooperative Learning and Critical Thinking

	Cognitive Skills						Dispositions						
	Evaluation	Explanation		Regulation			Fairness & Objectivity						
Positive interdependence			.53**	.50**				.60**					
Individual and Group Accountability	.44**	.54**	.53**	.56**	.53**								
Promotive interaction	.42**	.49**	.50**	.52**	.49**								
Interpersonal skills	.42**	.49**	.52**	.50**	.52**	.56**							.63**
Group processing	.46**		.57**	.57**	.55**	.60**	.42**	.51**	.59**	.53**	.60**	.64**	.66**
Cooperative learning	.48**			.60**		.64**	.45**	.60**	.66**	.57**	.65**	.71**	.72**

**Correlation is significant at the 0.01 level

Group Activities:
Students evaluate and adjust their behaviors to better achieve their goals and sustain effective working relationships.
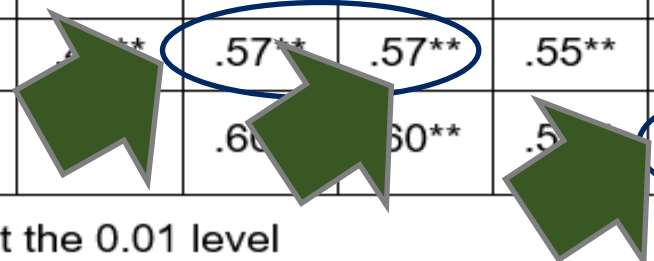
- use referential and supportive evidence.

- re-check and review the information they have identified.

Group p evaluati coopera **strong p**

- Consequently, they draw conclusions based on logical reasoning backed by the evidence.

Correlation Analysis

Is there a significant relationship between Cooperative Learning and Critical Thinking?

Table 5. Relationship Between Cooperative Learning and Critical Thinking

Students identify individual responsibility and accountability when creating cooperative tasks and reward systems

- Evaluate opinions fairly

- Accept proven truths even when it differs from their initial viewpoints.

Positive interdependence	.38**	.48**	.53**	.50**	.43**	.53**	.33**	.54**	.60**	.46**	.53**	.59*	.59**
Individual and Group Accountability	.44**	.54**	.53**	.56**	.53**	.60**	.41**	.57**	.61**	.54**	.57**	.65**	.66**
Promotive interaction	.42**	.49**	.50**	.52**							.55**	.60**	.61**
Interpersonal skills	.42**	.49**	.52**	.50**							.59**	.63**	.63**
Group processing	.46**	.49**	.57**	.57**							.60**	.64**	.66**
Cooperative learning													.72**

**Correlation is s...

Individual and group accountability had the highest correlation with CTD fairness and objectivity (r = .61). Overall, cooperative learning and CTD (r = .71)

Accept H$_2$, cooperative learning and critical thinking have a significantly strong positive correlation (r = .72).

Conclusion and Recommendations

Chinese ESL learners demonstrate strong motivation in acquiring English as a second language, exhibit high critical thinking, and display good cooperative learning skills.

The desire to integrate into the community, external requirements, and the L2 Ideal self are strong motivators in fostering self-regulation in critical thinking and systematic approaches to learning.

Good group dynamics and individual responsibility are strong predictors of enhancing critical thinking through evaluation and explanation and promoting fairness and objectivity in decision-making.

Recommendations

A. Foster curiosity in learning about diverse cultures to promote information exchange and resource sharing.

B. Maintain a relaxing classroom environment to foster positive interactions between students and instructors

C. Promote proactive communication with instructors by exhibiting enthusiasm and approachability.

D. Cultivate a friendly and nurturing classroom environment to appreciate the contributions of each team member.

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Recommendations

E. Encourage resource and information sharing among students for collaborative task completion.

F. Develop interpersonal skills, including conflict resolution and managing disagreements, to enrich learner's abilities

G. Facilitate active participation in discussions and debates while emphasizing attentive listening and engagement with others.

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