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On the Effect of RRT-Based Strategically Mediated Reflective Practices on Academic Self-Concept

[1]Sara Badakhshan
[2]Khalil Motallebzadeh*
[3]Parviz Maftoon

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Abstract: One of the major concerns in language education is making theory and practice to be visibly connected. Fulfilling this aim, the present study sought to introduce a new mode of strategically mediated reflective instruction, reflective reciprocal teaching (RRT), and investigate its impact on Iranian EFL learners' academic self-concept by focusing on its components. To this end, the current study, adopting a quasi-experimental design, was conducted in a 6-stage treatment following the cognitive apprenticeship principles mentioned by Collins et al. (1989). Convenience sampling was used to select intact classes with 100 freshman EFL learners. A translated version of the Academic Self-concept Inventory was utilized as the pre-post assessment tool. MANCOVA was exploited to examine changes in group means and determine how well the intervention program worked to improve the learners' academic self-concept. The numerical data signified that the RRT instruction significantly impacted the components of learners' academic self-concept. In other words, increasing learners' positive self-perception about their competence dealing specifically with creativity, intellectual ability, self-regulation, and motivation, could be fulfilled under special programs considering them as agentive figures with respected abilities when working cooperatively with significant others (teacher & peers).

***Keywords*:** Academic Self-concept, Reciprocal Teaching, Reflection, Reflective Reciprocal Teaching, Strategically Mediated Reflective Practices

Introduction

The primary goal of these days' schooling is bringing democracy into education which necessitates developing thoughtful and self-regulated learners (SRLs) (Ho, 2005). Recent methods emphasize students' active participation in their learning via implementing dialogical, collaborative teaching and learning models. Utilizing active learning instructional strategies such as reflective practices paves the way for teachers to make instruction more dialogic (Spiller, 2012), increases learners' awareness regarding how to learn and how to improve their abilities (Tilley et al., 2017), and gives them a chance to observe their growth and self-regulate their learning process (Kostons et al., 2012). However, to become self-regulated, besides developing strategies and gaining self-awareness regarding performance outcomes, learners should be sensitive to both environmental and social settings (Zimmerman & Risemberg, 1997). In other words, in addition to the cognitive and meta-cognitive dimensions of the self-regulated learning (SRL) process, its

[1] Ph.D. Candidate of TEFL, sara.badakhshan@yahoo.com; Department of English, Science and Research Branch, Islamic Azad University, Tehran, Iran.

[2] Associate Professor of TEFL (Corresponding Author), kmotallebz@tabaran.ac.ir; Department of English, Tabaran Institute of Higher Education, Mashhad, Iran.

[3] Associate Professor of TEFL, pmaftoon@srbiau.ac.ir; Department of English, Science and Research Branch, Islamic Azad University, Tehran, Iran.

affective side concerning the learners' emotions, attitudes, and beliefs (Zulkarnaen, 2019), should be considered critical.

Among factors included in this domain, academic self-concept which is related to the global perception learners have regarding values bonded to their perceived academic competence (McCoach & Siegle, 2003), has been regarded as the one having a significant contribution to their SRL and academic performance (Green et al., 2012). That's to say, this self-construct deals with learners' perception and evaluation of abilities (general and specific intellectual abilities, creativity, and motivation) regulating their learning and academic performances (Ordaz-Villegas et al, 2013). Concerning this matter, it is claimed that making self-satisfaction a condition of achieving learning objectives can promote successful self-regulated learning because it paves the way for the learners to take control over their activities and promotes perseverance in an endeavor (Zimmerman, 2008). There is much research evidence indicating the effectiveness of instructions in improving learners' sense of self issues by providing many opportunities for them to display their active role in the process of learning (Rowley & Munday, 2014).

Among them, reciprocal teaching, an instructional technique increasing learners' metacognitive knowledge (Rosenshine & Meister, 1994), plays a major role in making learners active and self-regulated via improving their self-monitoring skills (Choo et al., 2011). This model of teaching displays the basic principles of the cognitive apprenticeship approach proposed by Collins, Brown, and Newman (1989). It is also believed that reflection and reflective practices promoting learners' engagement in SRL (Tang, 2002; Zimmerman, 2000) have a major contribution to cultivating self-related issues in the content of learning (Kula, 2021). The introspective and individualistic nature of these issues has been the subject of the majority of this field's research (e.g, Rowley & Munday, 2014), while, from a sociocultural perspective, they should also be treated as interactive processes (Shokouhi et al., 2017).

Although prior studies have highlighted the significant contribution of some approaches dealing with deep learning strategies and self-reflection to the development of learners' academic performance (e.g, Rodriguez, 2008) and their self- related issues such as self-efficacy, self-esteem, and self-concept (Dana & Badali, 2014; Er et al, 2019; Powell, 2013), there is a dearth of research, concentrating on their improvement and formation resulting from " a joint product of individuals' cognition and the social milieu" (Heidari-Shahreza, 2014, p. 89). Also, considering learners' academic self-concept as a general entity, a few scholars focused on its development from a constructivist point of view (Badakhshan, in press; Er, 2012, Kim, 2005). However, there is a lack of empirical investigations focusing on the growth of its components, self-regulation, creativity, motivation, and general intellectual abilities (Ordaz-Villegaz et al., 2013), under special circumstances.

Accordingly, to fill the mentioned gap, by focusing on the sociocultural concept of reflection and reflective practices (Khatib & Shokouhi, 2012; Solomon**,** 1987) besides their cognitive and introspective sense (Dewey, 1933; Schon, 1983), this study aimed at introducing a new mode of scaffolding strategy based instruction integrating cognitive apprenticeship principles into collaborative learning and investigating the impact of strategically mediated reflective practices on the components of Iranian EFL learners' academic self-concept, the most important contributor of the affective-motivation side of SRL (McCombs, 1989). In this respect, the following research questions were set forth:

Research Question One: To what extent does the reflective reciprocal teaching mode of instruction have a significant effect on Iranian EFL learners' components of academic self-concept?

Research Question Two: To what extent does reciprocal teaching instruction have a significant effect on Iranian EFL learners' components of academic self-concept?

Literature Review

Since the paradigm shift in ELT, mainly known as a move from teacher-centered instruction to learner-centered or learning-centered one (Jacob & Farrell, 2001), learning, from a constructivist point of view, has been introduced as "an active contextualized process in which learners construct meaning by linking new ideas with their existing knowledge". (Naylor & Keogh, 1999, p.93). Applying this outlook in educational contexts requires a learner-centered approach to learning, considering learners as active, self-regulated, and reflective participants who adapt their incomparable learning style into the learning process to construct their knowledge (De la Sablonnie et al., 2009). Reviewing the related literature indicates a diversity of effective instructional strategies promoting the constructivist view of learning in the classroom (Dignath & Buettner, 2008). Among them, reflection and reflective practices giving the learners a new insight into their understanding and experiences (Ashegh Navaie, 2018), have gained much attention (Le Cornu & Peters, 2005). Pointing to the vital contribution of reflection to the learning process, Bruner (1966) claimed that giving learners any chance to reflect on their problems may develop understanding and lasting knowledge retention. Since 100 years ago, the importance of reflection has been emphasized by many scholars. Dewey (1910, as cited in Greenwood, 2010), putting his emphasis on the cognitive dimension of reflection (Nguyen et al, 2014), introduced it as any belief, actively or persistently examined in light of the premises on which it is based and the implications it tends to imply.

Later, Schön (1983), expanding this outlook, postulated it as a part of a lifelong procedure associating learners' knowledge with their experiences either intentionally or without conscious volition. Also, Kolb (1984), in his outstanding model of learning, presented reflection as a gradual process through a learning cycle including reflecting, conceptualizing, applying, and experiencing**.** However, it is necessary to mention that some of these views, such as the one proposed by Dewey has been criticized due to neglecting the discursive, dialogical, and social dimensions of reflection (Day,1993; Zeichner & Liston,1996) or because of considering it exclusively as a cognitive and introspective process(Shokouhi et al, 2017). In this respect, Solomon (1987 as cited in Shokouhi et al., 2015) made reflection known as a social process in which developing critical thinking is supported via sharing thoughts with others.

The significant role of reflection and reflective activities in enhancing learners' knowledge and growth has been documented with a great deal of research on these issues (Cathro et al., 2017; Lee & Gyogi, 2016; Menekse, 2020; Slepcevic-Zach & Stock, 2018). As an example, Lee and Gyogi (2016) investigated the impact of reflective practices on learners' sense of self and found that reflective learning journals gave learners many opportunities to discover their real selves through the process of learning. In a related study, Cathro, O'Kane, and Gilbertson (2017) discovered that engaging learners in reflective learning journals facilitated gaining a comprehensive perception of their competency level and skill development. In another study, Slepcevic-Zach and Stock (2018) revealed that an e-portfolio as a self-reflective tool had an essential role in learners' competence development. Menekse (2020) also confirmed the significant role of reflection and reflective practices in improving learners' academic achievement. Conducting quantitative research on undergraduate industrial engineering learners, he found that the reflective, informed learning instruction model increased learners' self-monitoring skills and, as a result, enhanced their academic success.

Also, in the EFL context of Iran, few scholars have conducted similar studies on these issues (e.g. Badakhshan et al., 2021; Karami et al., 2022; Nourdad &Asghari, 2017). Nourdad and Asghari (2017), studying the effect of reflective practices on learners' reading comprehension performance, revealed the substantial impact of reflective reading strategies such as dialogue journal writing on this issue. In another mixed-method study, focusing on introspective and retrospective reflective practices, reflective strategy-based instruction was assumed as a dependable mode of instruction, developing learners' reading ability. The qualitative results of this study also revealed that the learners' SRL and sense of value, which is made up of their confidence and motivation, were increased due to the effect of reflective practices integrated into a collaborative learning environment (Badakhshan et al., 2021). Eventually, Karami, Babaii, and

Daftarifard (2022) confirmed that semi-structured reflection writing significantly improved learners' reading performance and metacognitive competencies.

Methodology

Design of the Study

This study took on a quasi-experimental design, including a pretest, treatment, and posttest paradigm. It was administered in three intact classrooms including EFL learners chosen based on non-probability convenience sampling. The major aim of this study was to shed light on the learners' improvements regarding the components of their academic self-concept in a new mode of instruction dealing with SRL principles. Due to this aim, the data were gathered via a questionnaire. The independent variable in this study was the teaching mode of instruction and its dependent variable was the learners' academic self-concept by focusing on its components.

Participants

To achieve the main objectives of this study, a total of 150 BA freshmen female learners enrolled in language teaching courses at Binaloud Institute of Higher Education, Mashhad, Iran, were selected by a nonprobability convenience sampling technique. The range of their age was between 18 to 21 years. By utilizing the Oxford Quick Placement test, 100 of them participated in three homogeneous experimental and comparison groups.

Instruments

The academic self-concept questionnaire (Ordaz-Villegas et al., 2013), consisting of 16 Likert scale items dealing with four task-oriented domains of self-regulation, general intellectual ability, motivation, and creativity, was utilized as the main instrument of the present study. The Persian version of this inventory was piloted on a group of 30 students to examine its reliability and validity.

Procedure

This study probed into the learners' inner world by investigating the effect of a new mode of instruction (RRT), comprising the strategically mediated reflective practices, on the components of Iranian EFL learners' academic self-concept. The aforementioned intervention, lasting for a full academic year (34 sessions), began with a pilot study in which the translated version of the instrument was used in the field before being used in the research project. At the pretesting stage, the teacher gave all three groups' participants a questionnaire to fill out as the pre-assessment of academic self-concept. In the second stage, the selected groups went through different intervention programs.

Reciprocal Teaching Group

In the RT experimental group, the teacher, first taught the metacognitive reading strategies (predicting, clarifying, questioning, and summarizing) explicitly. Then through modeling done via using the thinking aloud protocols, the instructor indicated why, when, and where to use those strategies, and subsequently, asked the learners to take part in scaffolded guided practices. Gradually, the teacher's scaffolding faded out and the mentioned responsibility was taken by the learners themselves. In other words, being assigned randomly to groups including four or five members, the learners were given roles dealing with the

mentioned strategies and allowed to work on these strategies within groups. Here the main focus was on learners' cooperation.

Reflective Reciprocal Teaching Group

In another experimental group (RRT group), participants took part in a 6-stage intervention program integrating cognitive apprenticeship principles into collaborative learning and providing external and internal input resources. Besides doing introspective practices via vocalizing their internal thinking through think-aloud protocols, collecting portfolios and participating in the conferencing sessions gave the learners another chance to retrospectively reflect on their performances. During the first sessions, the major objectives and principles of the newly introduced mode of instruction and how to collect their portfolios were introduced to the learners.

- Explicit teaching of strategies**:** During the first phase of this instruction, all cognitive and metacognitive strategies including questioning, clarifying, making a prediction, and summarizing were explicitly taught and practiced through different worksheets.

- Modeling: As soon as the learners learned the mentioned strategies, the second phase of this instruction was started in which the teacher modeled reciprocal teaching strategies via using think-aloud protocols to make them aware of the questioning strategy by which they could ask proper deep questions while they were reading the text, making the best predictions before and at the same time as they were engaged in reading the text, using the best strategies for clarifying confusing parts of the texts, and ultimately, reflecting on the gist of the text meaning by writing a comprehensive summary.

- Coaching and scaffolding: Through this stage, the learners were assigned randomly into groups and worked on the mentioned strategies under the educator's coaching. In other words, the teacher monitored and gave them some just-in-time hints and explicit feedback based on their skills and capabilities to handle more complex task performance.

- Fading scaffolding: As soon as the leaners became cognitively mastered and able to independently carry out the tasks on the mentioned strategies, teachers' scaffold support gradually faded.

- Articulating strategy: In this stage, learners had sufficient opportunities to introspectively reflect on the strategies they use by verbalizing their knowledge. In other words, using the thinking-aloud strategy made their perception explicit for dialogical mediation, and then new insights and understanding were achieved as a result of dialogical negotiation between the learners and significant others.

- Reflection and exploration: Eventually, in the reflection and exploration stage, through collecting their portfolios and attending the conferencing sessions, besides focusing on reflective practices' individualistic nature and retrospectively reflecting on their accomplishments, the learners were provided with situated learning, increasing their engagement in tasks within a socially determined community. That's to say, they had a chance to interactively reflect on their performances by making their perception explicit to others paving the way to dialogical mediation resulting in restructuring their perception and receiving metalinguistic feedback from more knowledgeable others, inviting them to pose and solve their problems, and encouraging them to solve new, but similar tasks making them engaged in the exploration and leading them to become independent.

Portfolios included pieces of evidence of the learners' performances regarding their strategy use gathered via the teacher's observations inside of the classroom and by the learners themselves when they were working on some extra reading passages as their assignment. In addition, it contained reading logs including the teacher's feedback about their performances and learner's self and peer assessments done by the use of rubrics. It also encompassed the reflective part letting the learners monitor their progress on the subject of their strategy use. Also, after each session, by attending the conference sessions, learners could

evaluate their progress over time and reflect on various learning challenges. Generally, by receiving the teacher's feedback (elicitation and metalinguistic clues), they had another chance to gain more independent self-control regarding their language learning ability. Keeping reflective logs could help them become aware of their weaknesses and strengths regarding the mentioned objectives. In short, what made this mode of instruction different from the other intervention programs (RT& conventional teaching instructions) was the nature of reflection, the type of feedback the RRT learners received, and the reflective practices (introspective & retrospective) they were engaged in.

Control Group

The control group was exposed to a conventional teaching approach through which learners had the least responsibility regarding organizing and making a decision around teaching, learning, and assessment processes. Also, they did not deal with any kind of reflection and reflective practices through the process of learning. They also received limited feedback from their teacher and peers and had the least opportunity for practical applications of their learnings. The main focus of this instruction was on learning bottom-up concerns, activating learners' background knowledge, and using linguistic and cognitive resources. Finally, after the interventions' completion, the inventory utilized as a pre-assessment of academic self-concept was administered as a posttest to all groups' participants.

Results

The major motive behind the present research was to investigate the RRT mode of instruction's substantial role in developing learners' academic self-concept in terms of its four components of creativity, self-regulation, motivation, and general intellectual ability. Concerning this matter, a multivariate analysis of covariance (MANCOVA) was utilized to show whether there were statistically significant differences among the three groups' means on the mentioned components' post-test after controlling for the effect of pretests to probe the research questions. Before focusing on the major assumptions that contributed to the MANCOVA analysis, the normality of the data was assumed. Table 1 displays the normality of the pre-treatment and post-treatment of academic self-concept components probed by computing the ratios of skewness and kurtosis indices over their respective standard errors.

Table *1*

Skewness and Kurtosis Indices of Normality

	RRT		RT		Control	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
Pre-Creativity	-.738	.202	-.285	-.127	.016	.053
Pre-Self-Regulation	-.599	-.255	.038	-.581	.637	2.074
Pre-Motivation	-.374	-.562	.141	-.737	.291	-.296
Pre-Intellectual	-.091	-.211	-.092	-1.052	-.282	-.254
Post-Creativity	-.261	-.606	.282	.243	.279	-.485
Post-Self-Regulation	.352	-.511	-.074	-.661	-.231	-.515
Post-Motivation	-.222	-.448	-.442	-.453	.326	-.835
Post-Intellectual	-.525	.447	235	-1.303	-.051	-.169

As displayed in Table 1, the skewness and kurtosis indices were within the ranges of +/- 2 (Bae & Bachman 2010). Thus; it was concluded that the assumption of normality was retained. Table 2 displays the results of Levene's test of the homogeneity of variances.

Table 2

Levene's Test of Equality of Error Variances Posttests of Components of Academic Self-Concept

	F	df1	df2	Sig.
Post-Creativity	2.568	2	97	.082
Post-Self-Regulation	1.817	2	97	.168
Post-Motivation	.953	2	97	.389
Post-Intellectual	1.410	2	97	.249

The results indicated that the assumption of homogeneity of variances was retained on posttests of creativity (F (2, 97) = 2.56, p > .05), self-regulation (2, 97) = 1.81, p > .05), motivation (2, 97) =.953, p > .05), and general intellectual ability (2, 97) = 1.41, p > .05). Table 3 to Table 6 display the results of the assumption of linearity.

Table 3

Testing Linearity of Relationship between Pretest and Posttest of Creativity

			Sum of Squares	df	Mean Square	F	Sig.
Post-Creativity * Pre-Creativity	Between Groups	(Combined)	145.700	15	9.713	1.340	.198
		Linearity	89.801	1	89.801	12.385	.001
		Deviation from Linearity	55.899	14	3.993	.551	.895
	Within Groups		609.050	84	7.251		
	Total		754.750	99			
Eta Squared			.193				

The significant results of the linearity test (F (1, 84) = 12.38, p < .05, η^2 = .193) indicated that there was a linear relationship between pre-test and post-test of creativity.

Table 4

Testing Linearity of Relationship between Pretest and Posttest of Self-Regulation

			Sum of Squares	Df	Mean Square	F	Sig.
Post-Self-Regulation * Pre-Self-Regulation	Between Groups	(Combined)	149.369	13	11.490	2.156	.018
		Linearity	91.215	1	91.215	17.112	.000
		Deviation from Linearity	58.153	12	4.846	.909	.541
	Within Groups		458.421	86	5.330		
	Total		607.790	99			
Eta Squared			.246				

The significant results of the linearity test for posttest of self-regulation (F (1, 86) = 17.11, p < .05, η^2 = .246) (Table 4) indicated that there was a linear relationship between pretest and posttest of self-regulation.

Table 5

Testing Linearity of Relationship between Pretest and Posttest of Motivation

			Sum of Squares	df	Mean Square	F	Sig.
Post-Motivation * Pre-Motivation	Between Groups	(Combined)	206.777	14	14.770	2.752	.002
		Linearity	155.473	1	155.473	28.972	.000

		Deviation from Linearity	51.303	13	3.946	.735	.724
	Within Groups		456.133	85	5.366		
	Total		662.910	99			
Eta Squared			.312				

The significant results of the linearity test ($F (1, 85) = 28.97$, $p < .05$, $\eta^2 = .312$) (Table 5) indicated that there was a linear relationship between pretest and posttest of motivation.

Table 6

Testing Linearity of Relationship between Pretest and Posttest of General Intellectual Ability

			Sum of Squares	df	Mean Square	F	Sig.
Post-Intellectual * Pre-Intellectual	Between Groups	(Combined)	196.740	17	11.573	1.495	.117
		Linearity	122.835	1	122.835	15.873	.000
		Deviation from Linearity	73.905	16	4.619	.597	.878
	Within Groups		634.570	82	7.739		
	Total		831.310	99			
Eta Squared			.237				

The significant results of the linearity test ($F (1, 82) = 15.87$, $p < .05$, $\eta^2 = .237$) (Table 6) indicated that there was a linear relationship between pretest and posttest of general intellectual ability. MANCOVA also assumes that the linear relationships between pretests and posttests of components of academic self-concept are roughly equal across all groups (Table 7).

Table 7

Test of Homogeneity of Regression Slopes of Posttests of Components of Academic Self-Concept with Pretests

Effect		Value	F	Hypothesis Df	Error df	Sig.	Partial Eta Squared
GROUP * Pre-Creativity * Pre-Self-Regulation * Pre-Motivation * Pre-Intellectual	Pillai's Trace	.113	874	12	267	.574	.038
	Wilks' Lambda	.889	871	12	230.47	.577	.038
	Hotelling's Trace	.122	868	12	257	.581	.039
	Roy's Largest Root	.087	1.940[c]	4	89	.111	.080

As displayed in Table 7, the non-significant interaction (Table 7) between covariates (pretests) and independent variable ($F (12, 267) = .874$, $p > .05$, Partial $\eta 2 = .038$) showed that the pretest and posttest of creativity, self-regulation, motivation, and general intellectual ability had linear association across the three groups. And finally, MANCOVA assumes that the correlations between any two pairs of dependent variables; i.e. creativity, self-regulation, motivation, and general intellectual ability, are roughly equal across the three groups (Table 8).

Table 8

Box's Test of Equality of Covariance Matrices

Box's M	41.758
F	1.962
df1	20
df2	31496.789
Sig.	.006

Table 8 displays the non-significant results of the Box's test (Box's M = 41.75, p > .001). After discussing the assumptions of MANCOVA, the main results will be reported below (Table 9).

Table 9

Descriptive Statistics; Posttests of Components of Academic Self-Concept by Groups with Pretests

Dependent Variable	GROUP	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Post-Creativity	RRT	13.986[a]	.390	13.211	14.760
	RT	12.867[a]	.426	12.021	13.714
	Control	11.118[a]	.425	10.274	11.962
Post-Self-Regulation	RRT	13.960[a]	.310	13.344	14.576
	RT	12.094[a]	.339	11.421	12.768
	Control	10.761[a]	.338	10.090	11.432
Post-Motivation	RRT	14.364[a]	.329	13.712	15.017
	RT	12.646[a]	.359	11.932	13.359
	Control	11.779[a]	.358	11.068	12.490
Post-Intellectual	RRT	14.722[a]	.355	14.017	15.426
	RT	13.081[a]	.388	12.311	13.851
	Control	11.228[a]	.386	10.461	11.995

a. Covariates appearing in the model are evaluated at the following values: Pre-Creativity = 8.62, Pre-Self-Regulation = 8.09, Pre-Motivation = 8.58, Pre-Intellectual = 8.61.

As shown in Table 9, by removing the effect of the extraneous variable (pretest), the RRT group had the highest means on posttests of creativity, self-regulation, motivation, and general intellectual ability, the RT group had the second highest means, and the control group had the lowest means on all four posttests. The results of MANCOVA (F (8, 182) = 9.09, p < .05, partial $\eta 2$ = .286) (Table 10) revealed the statistically significant differences among the three groups' means regarding the posttests of creativity, self-regulation, motivation, and general intellectual ability after eliminating the effect of pretests. Thus; both null hypotheses considering the ineffectiveness of reflective reciprocal teaching mode of instruction and reciprocal teaching technique regarding learners' components of academic self-concept were nullified.

Table 10

Multivariate Tests; Posttests of Components of Academic Self-Concept by Groups with Pretests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.892	186.701	4	90	.000	.892
	Wilks' Lambda	.108	186.701	4	90	.000	.892
	Hotelling's Trace	8.298	186.701	4	90	.000	.892
	Roy's Largest Root	8.298	186.701	4	90	.000	.892
GROUP	Pillai's Trace	.571	9.091	8	182	.000	.286
	Wilks' Lambda	.439	11.452	8	180	.000	.337
	Hotelling's Trace	1.254	13.949	8	178	.000	.385
	Roy's Largest Root	1.235	28.096	4	91	.000	.553

Table 11, illustrates the results of the Between-Subjects Effects.

Table 11

Tests of Between-Subjects Effects; Posttests of Components of Academic Self-Concept by Groups with Pretests

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
GROUP	Post-Creativity	134.432	2	67.216	12.201	.000	.208
	Post-Self-Regulation	167.939	2	83.970	24.103	.000	.341
	Post-Motivation	112.997	2	56.499	14.437	.000	.237
	Post-Intellectual	197.594	2	98.797	21.692	.000	.318
Error	Post-Creativity	512.349	93	5.509			
	Post-Self-Regulation	323.989	93	3.484			
	Post-Motivation	363.951	93	3.913			
	Post-Intellectual	423.567	93	4.554			
Total	Post-Creativity	17011.000	100				
	Post-Self-Regulation	15959.000	100				
	Post-Motivation	17641.000	100				
	Post-Intellectual	18071.000	100				

As depicted in Table 11, there were significant differences between the three groups' means on the posttest of creativity ($F (2, 93) = 12.20$, $p < .05$, partial $\eta 2 = .208$ representing a large effect size) and the posttest of self-regulation ($F (2, 93) = 24.10$, $p < .05$, partial $\eta 2 = .341$ representing a large effect size) after controlling for the effect of the pretest. Also, there were significant differences between the three groups' means on the posttest of motivation ($F (2, 93) = 14.43$, $p < .05$, partial $\eta 2 = .237$ depicting a large effect size) and the posttest of general intellectual ability ($F (2, 93) = 21.69$, $p < .05$, partial $\eta 2 = .318$ showing a large effect size) after controlling for the effect of pretest. Table 12 displays the results of post-hoc comparisons for comparing the three groups' means on post-treatment of academic self-concept's components after controlling for the effect of their pre-treatment.

Table 12

Post-Hoc Comparisons; Posttests of Components of Academic Self-Concept by Groups with Pretests

Dependent Variable	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
post-Creativity	RRT	RT	1.118	.586	.060	-.046	2.282
		Control	2.868*	.583	.000	1.709	4.026
	RT	Control	1.750*	.598	.004	.561	2.938
Post-Self-Regulation	RRT	RT	1.866*	.466	.000	.940	2.792
		Control	3.199*	.464	.000	2.278	4.120
	RT	Control	1.333*	.476	.006	.388	2.278
Post-Motivation	RRT	RT	1.719*	.494	.001	.737	200
		Control	2.586*	.492	.000	1.609	3.562
	RT	Control	.867	.504	.089	-.135	1.869
Post-Intellectual	RRT	RT	1.641*	.533	.003	.582	2.699
		Control	3.494*	.530	.000	2.441	4.547
	RT	Control	1.853*	.544	.001	.773	2.934

*. The mean difference is significant at the .05 level.

The results of the Post-Hoc comparison tests (Table 12), tests of Between-Subjects Effects (Table 11), and the descriptive statistics (Table 9) revealed that by restricting the effect of the pretest, both the RRT (M = 13.98) and RT (M = 12.86) groups surpassed the control group's mean regarding creativity. The results also indicated a significantly higher mean rank for the RRT experimental group (M = 13.96) than the mean rank of the control group (M = 10.76) on the posttest of self-regulation by eliminating the pretest effect (MD = 3.19, $p < .05$). This group (M = 13.96) had also a significantly higher mean rank than the RT group (M = 12.09) on posttest of self-regulation after restricting the pretest effect (MD = 1.86, $p < .05$). In addition, making a comparison between the RT experimental group and comparison group's means, it was revealed that the RT group (M = 12.09) possessed larger mean rank than the control group (M = 10.76) on posttest of self-regulation after confining the effect of pretest (MD = 1.33, $p < .05$). The results of Post-Hoc Comparisons displayed that the RRT group (M = 14.36) exceeded the control group (M = 11.77) on the motivation posttest after confining the influence of the pretest (MD = 2.58, $p < .05$). This group (M = 14.36) also surpassed the RT group (M = 12.64) on this issue after confining the pretest effect (MD = 1.71, $p < .05$). The findings also revealed no significant contrast between RT (M = 12.64) and control (M = 11.77) groups' mean rank on the posttest of motivation by controlling the effect of pretest (MD = .867, $p > .05$). Accordingly, the outcomes indicated that the RRT group (M = 14.72) surpassed both the comparison group (M = 11.22) and RT group (M = 13.08) on the post-test of general intellectual ability after limiting the pretest effect. The RT group (M = 13.08) also outperformed the comparison group (M = 11.22) on the mentioned issue (MD = 1.85, p.05).

Discussion

Reviewing the related literature indicates that self-concept, self-descriptive judgments individuals have regarding their confidence and self-worth, shaping their potential in doing a task or being engaged in an activity (Srivastavas & Joshi, 2011), has a crucial role in all learning contexts (Muhammad, 2017). Therefore, paving the way for improving and developing this psychoeducational construct via providing opportunities through which learners believe in their capability for learning (Simonsmeier et al., 2020) should be considered the primary aim of education (O'Mara & Marsch, 2006). Accordingly, this study's research questions were designed to look at the possible impacts of RRT and RT instructions on the learners' academic self-concept by focusing on its categories. Due to this aim, MANCOVA data analysis was run.

The findings indicated that the RRT mode of instruction had a significant impact on all of the components of academic self-concept (motivation, self-control, creativity, and general intellectual ability), and it surpassed other intervention programs in terms of making progress on these issues. On the other hand, the RT intervention program had only a significant impact on learners' creativity, general intellectual ability, and self-regulated learning. This impact was not very evident regarding the motivation category. Justifying this conclusion could be accomplished by focusing on some of the salient features of the RRT mode of instruction. Since making a combination between introspective and retrospective reflective practices and considering reflection as a cognitive (Dewey, 1993) and interactive process (Solomon, 1987) in a scaffolding strategy-based instruction were the main issues focused on in this study, it is worth mentioning that reflective practices could have the main role in increasing the components of learners' academic self-concept. As its name suggests, the RRT mode of instruction involves reflection, providing the learners the best opportunities to focus on their problems, verbalize them, and, after receiving metalinguistic feedback from more knowledgeable others restructure their understanding and perception.

In other words, reflective practices allow learners to explore their strengths and weaknesses in the process of learning and enhance their self-regulation (Greenwood, 2010). Portfolio-based instruction as a method by which reflection can be practiced has been recommended as the more feasible tool in the

context of EFL/ESL learning and teaching (Taheri & Mashhadi Heidar, 2019). By collecting portfolios, learners could assess their performance via self-monitoring (Beck, et al., 2005) and raise their metacognitive awareness regarding the process of learning (Tamer, 2022). Accordingly, the self-assessment and self-monitoring procedures utilized during collecting portfolios may be credited with the findings of the current study about the more successful function of the RRT approach than its rival in building the learners' components of academic self-concept. In the same line, Shahrouri (2016), in his study investigating the impact of reflective practices on AUE learners' academic self-concept, concluded that self-monitoring had a significant role in developing this issue.

When compared to the other intervention programs in this study, the RRT had a significant impact, especially on the motivation category of academic self-concept. One possible explanation for this finding is that learners who engage in reflective practices pay more attention to their learning process, gain more confidence in their ability, and, as a result, become motivated in this autonomy-supportive climate. This finding is in agreement with the result of the study carried out by Soberg (2018), which maintained that collaborative self-reflection practices paving the way for the learners to gain more tangible perception regarding both the process and product of their learning, increased their confidence and motivation.

The present research findings also indicated that the RRT learners became more self-regulated than the other groups' participants. This conclusion could be due to the nature of the mixed instruction comprising explicit teaching, cooperative learning, and reflective practices. Concerning this matter, it is believed that reflective practices such as portfolios, used as a scaffolding approach to understanding and engagement (Alexiou & Paraskeva, 2010), which is accompanied by cooperative learning and explicit teaching of strategies, develop the learners' self-regulated skills (Peery, 2005). It is also mentioned that a combination of self-regulation and reciprocal teaching techniques forms an effective reflective practice resulting in better learners' strategy performance (Schünemann et al., 2013). The significant impact of explicit teaching of language learning strategies on learners' self-concept has also been supported by the study done by Du (2012).

Additionally, significant others' roles, language learning experience, and a supportive classroom environment could be considered as the other determining factors regarding this achievement. The presence and development of the L2 self-concept are thought to be guaranteed by reciprocal interaction between the learners' self-system and the social and learning environment (Massey, 2014). In this regard, it is believed that cooperative learning increasing learners' interpersonal skills, active social interaction and participation in different activities, and critical thinking letting them consider each issue from multiple perspectives could provide such a supportive situation (Fahim & Eslamdoost, 2014).

The findings of this study also revealed that the learners' general intellectual ability, as another effective aspect of the learners' academic self-concept, has been significantly enhanced. As believed by Rodriguez (2009), academic self-concept can lead to higher-order thinking skills, including critical and reflective approaches, which can be regarded as critical intellectual abilities. In other words, as a result of the RRT intervention program, the learners' general exceptional skills or potential, detected through cognitive processes (CDE, 2016), were prominently enhanced. The resulting development paralleled the major findings of another intervention study (Faravani & Atai, 2015), indicating that the learners' active learning and higher-order thinking abilities are intended to be promoted in instructional formats, allowing students to understand what constitutes good performance through critical discussion and take into account the perspectives of others when assessing the truth of claims.

Finally, the findings confirmed the effectiveness of the reflective reciprocal teaching intervention program regarding the learners' creativity as the last category of academic self-concept. In this technique, focusing on learner-centeredness, the teacher gave the learners many opportunities to create their own way of learning the material when they were doing reflective activities individually or cooperatively with other group members. Developing learners' critical and reflective ways of thinking paved the way for

them to display their creative learning uniqueness. In other words, students were free to choose among a variety of options appropriate for their learning styles, and they were not limited to only one method imposed by the teacher. In this case, learners' creativity was nurtured by providing them with the opportunity to reveal their inventiveness by considering and analyzing each issue from several dimensions. This conclusion is in line with Mapundu and Musaras' (2019) study examining the impact of reflective practices on learners' creativity and concluding that reflective practices make learners confident to experiment with every chance and, as a result, become creative to initiate new ideas.

Conclusion and Implications

The primary purpose of this study was to introduce a new mode of instruction focusing on reflection and reflective practices from sociocultural and constructivist perspectives and find possible ways to penetrate the inner world of EFL learners. Due to this aim, by running a multivariate analysis of covariance (MANCOVA), it was revealed that the RRT technique surpassed the other intervention programs due to its significant impact on all of the components of academic self-concept. That's to say, its collaborative self-reflection practices paved the way for the learners to display their creative learning uniqueness and gain a more tangible perception regarding their strengths and competence limitations, and accordingly, their learning process and product increased their confidence and motivation. Also, explicit teaching of strategies, scaffolding and coaching, and the participation of significant others gave the learners sufficient opportunity to gain deeper perception and positive beliefs regarding the extent to which they would be able to manage problems, perceive themselves as a member of a group where they are accepted and respected with other members, do their best to achieve the intended learning objectives, and become more self-regulated. In other words, considering the data gained through quantitative data analyses reiterated that increasing learners' positive self-perception about their competence dealing specifically with their creativity, intellectual ability, self-regulation, and motivation, could be fulfilled under special programs considering them as agentive figures with respected abilities when working cooperatively with significant others.

Concerning the importance of academic self-concept in language learning, this study's findings opened a new avenue into the beneficial ways of fostering and developing this psychological factor in educational contexts. These findings draw out invaluable pedagogical implications for EFL teachers, learners, and material developers. For instance, by creating learner-centered environments, concentrating on learners' unique learning interests and requirements, and increasing their agentive capabilities, EFL educators could have a main contribution to their beliefs regarding their competencies and their sense of confidence in learning a foreign language. In other words, by considering individual learners' differences, they could increase learners' positive perception of their performances or pave the way for them to feel competent in the process of language learning.

Unlike traditional, teacher-dominated instructions ignoring the learners' full potential, in learner-centered instructions such as RRT, teachers who consider learners first as individuals based on their needs, abilities, and learning styles can provide many opportunities for them by which they feel that their rights, insights, and ideas are respected. Therefore, by making the learners involved in meaningful and reflective practices in a supportive and scaffolded learning environment, teachers can increase their positive beliefs regarding their agentive capabilities and provide suitable grounds for developing their sense of self.

Also, by considering the major contribution of teacher's positive statements and feedback in fostering and increasing learners' positive attribution to effort or their academic self-concept, making an open relationship between the learners and their teacher and providing situations where the teacher plays a facilitative role and the learners are actively engaged in the process of learning is recommended. Finally, the findings of this study may provide useful sagacity for material

developers to make materials more flexible to the diversity of learners and design them in such a way developing learners as a whole person, instead of making them limited to some prefabricated materials.

This study's main restriction dealt with the limited number of participants in each group preventing the generalizability of the results, and time span, not being sufficient for analyzing the gradual processes such as personality factors' growth. Concerning this matter, further studies are invited to look for larger samples and longitudinal, naturalistic, and focused case studies enlightening the major contributors and interactions resulting in their development. Researching for a prolonged period paves the way to trace any possible development of the path from the initial stages.

As another potentially intriguing area for further research, teachers' self-concept could be regarded as an important issue. Besides focusing on the importance of academic self-concept to the language learning process and learners' academic achievement, the vitality of this issue in teacher education opens a new avenue paving the way for scrutinizing new findings in this regard.

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