# RESEARCH

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Reflective thinking and self-evaluation in language learning: mirroring the impacts on Saudi Arabian EFL students' growth mindfulness, resilience, and academic well-being



Anwar Hammad Al-Rashidi<sup>1\*</sup> and Amhara Aberash<sup>2</sup>

\*Correspondence: a.alrashidi@psau.edu.sa

 Department of Psychology, College of Education, Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia
 Department of English Language, Jimma University, Jimma, Ethiopia

## Abstract

Based on the related literature, both self-evaluation (SE) and reflective thinking (RT) play an important role in English language learning among EFL learners. Therefore, in this study, the effects of SE and RT on growth mindfulness, resilience, and academic well-being of Saudi Arabian EFL students were compared. Ninety-six intermediate EFL students were selected based on the convenience sampling method in order to accomplish this goal, and they were divided into three groups: two experimental groups (EGs) and one control group (CG). Three guestionnaires were then distributed to assess the participants' academic well-being, progress in mindfulness, and resilience prior to the instruction. After that, the CG was instructed conventionally, while one EG was treated using RT and the other EG was treated utilizing SE activities. The aforementioned surveys were re-administered as study post-tests following a 21-session treatment, and the results were analyzed using One-way ANOVA and Tukey testing. The study's findings showed that the two EGs conducted better than the CG on three post-tests. Additionally, the outcomes supported the equivalent benefits of RT and SE for the development of Saudi Arabian EFL students' academic wellbeing, resilience, and mindfulness. The implications were eventually prepared for scholars, English instructors, students, and other stakeholders.

**Keywords:** Academic well-being, Growth mindfulness, Reflective thinking, Resilience, Self-evaluation

# Introduction

Reflective thinking (RT) has received more attention in the last ten or so years, and many educational academics have emphasized its significance as a component of education in the twenty-first century (Willingham, 2007). Reflection, or RT, is a step in the critical thinking process that focuses on the process of evaluating and assessing what has happened (Chamdani et al., 2022). According to Lee and Gyogi (2016), RT encourages more physical activity to address and resolve a variety of personal and professional issues



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since it is concerned with the effects of ideas. Furthermore, because it gives students the chance to take a step back and consider how they solve problems and how a particular set of problem-solving strategies is appropriated to achieve their goal, RT is crucial in prompting learning (including listening comprehension) through complex problem-solving situations (Adadan, 2018). Because humans always go through a thought process when making a choice, it follows that RT is a requirement for daily activities (Ayoobiyan & Rashidi, 2021).

Self-evaluation (SE) is another significant factor that affects language acquisition. It is regarded as a legitimate and dependable way to assess the results of both teaching and learning. According to Fitzpatrick (2006), SE is a dependable process that encourages learners to reflect in order to identify needs and overcome shortcomings in order to fulfill goals and enhance performance. It is crucial to the advancement of the processes of teaching and learning. Huang (2022) concurs that, when it comes to learning a foreign language, SE practices ought to be an area where reflection emerges as a crucial factor to be taken into account in the challenging process of learning English as a second language. SE encourages autonomy and self-motivation in students and assists them in taking ownership of their education. According to Cuesta-Melo et al. (2022), SE is widely acknowledged as a learning technique that supports language acquisition autonomy and gives students the freedom to continuously assess their progress and make decisions regarding their learning challenges. This implies that learners bear some of the accountability for their education (Goral & Bailey, 2019).

The specified variables may affect the mindfulness of EFL students. The broad definition of mindfulness techniques, which have gained popularity recently (see, for example, Moghadam et al., 2020; Zeilhofer & Sasao, 2022), is focusing attention to immediately developing inner and environmental events without passing judgment (Mortimore, 2017). In general, practicing mindfulness promotes positive personal development in students and encourages them to notice and embrace their negative emotions, ideas, and experiences rather than trying to escape them (Morgan & Katz, 2021). Additionally, a mindfulness approach to learning fosters awareness of the learning process, raises preparation for the learning experience, and offers a comprehensive method of learning that incorporates thoughts and feelings (Kuru Gönen, 2022). In learning and teaching contexts, the use of mindfulness techniques may thus have a transformative influence on the conscious choice of reactions made to mental and physical acts and events that would directly impact learning. Therefore, integrating mindfulness techniques into learningteaching situations may make them more successful (Zeilhofer, 2020).

In addition to mindfulness, SE and RT can affect resilience of EFL learners. Resnick et al. (2018) define resilience as a person's ability to function despite obvious pressures. Stated differently, resilience in the context of education refers to the learner's capacity to meet goals in the face of difficult or upsetting circumstances (Marie et al., 2021). According to Truebridge (2016), resilience is a dynamic process that involves both internal and external negotiation both within and between individuals to find the resources and supports needed to define oneself as healthy in the face of adversity, trauma, threat, and/or daily stress.

According to Xue (2021), resilient students may persevere through adversity and maintain a high level of mental toughness. Various dynamic elements, including psychological and social behaviors, combine to form resilience (Rodríguez-Fernández et al., 2018). It can assist people in adjusting to difficult or distressing circumstances and functioning productively (Proietti Ergün & Dewaele, 2021). It can be considered a key characteristic of individual differences that explains why some people do better than others when faced with challenges. According to Mori and Gobel (2021), resilience may be divided into behavioral, emotional, and intellectual categories. Several educational researchers have focused their attention on the topic of academic resilience.

The academic well-being of EFL learners, which is often defined as a condition of psychological, intellectual, emotional, physical, social, and spiritual wholeness, might be impacted by the use of SE and RT (Jia, 2022). Academic well-being includes loving school topics and things in school as well as one's affective and cognitive self-concept. It speaks about the fundamentals, know-how, and abilities that students need to be successful workers, involved citizens, and lifelong learners in today's world (Schwartz et al., 2021). Elovainio et al. (2011), Tuominen-Soini et al. (2011), and Fiorilli et al. (2017) are just a few of the research papers that have repeatedly demonstrated a connection between academic accomplishment and student well-being.

Academic well-being may be measured by a student's time, effort, and energy invested in their work, as well as by the contribution they make, their comprehension, and the knowledge they have acquired as a result of their studies. This is known as academic well-being. Students who are fully engaged in their studies find that learning time goes by fast. Additionally, their feeling of self-efficacy could rise. For example, the idea of academic buoyancy was applied in Miller et al. (2013) study to provide access to well-being in the classroom. The authors discovered a clear and substantial correlation between the pupils' academic success. Rimpelä et al. (2020) conclude with confidence that academic well-being, including academic outcome, promotes students' overall development.

The variables we explained above have a vital role in helping EFL learners' English language achievement. Dealing with psychological factors such growth mindfulness, resilience, and academic well-being is of paramount importance to the researchers to do this study. In fact, working on these psychological variables makes this study significant and novel. In addition, both independent variables (SE and RT) are effective tools for EFL learners to develop their English language learning. Therefore, this research aimed at examining the effects of SE and RT on Saudi Arabian EFL students' growth mindfulness, resilience, and academic well-being.

## **Review of the literature**

#### Theoretical background

## Reflective thinking

Building pupils' higher-order thinking abilities (HOTS) is a difficult, multifaceted educational task. To increase performance and lessen deficiencies, students in all courses need to be schooled in general skills, one of which is critical thinking (Arif, 2019). In Bloom's taxonomy, the cognitive processes of analysis, evaluation, and creativity are divided into HOTS, whereas knowledge, understanding, and application are placed into LOTS, according to Qasrawi and Beni Abdelrahman (2020). According to Aldahmash et al. (2021), the primary criterion for accomplishing learning objectives is thinking abilities, particularly HOTS. Critical thinking, logical reasoning, RT, metacognition, and creative thinking are all included in HOTS. RT (Setiawan et al., 2021) is one of HOTS.

RT is a type of thinking exercise that encourages pupils to attempt to establish connections between previously learned material and new issues they are solving. According to Chen et al. (2019), RT refers to the capacity to handle information or data in order to react internally and justify actions taken. Reflective thinkers also acknowledge and rectify their own errors and convey concepts using abstract or symbolic imagery rather than physical things (Chamdani et al., 2022). RT is a component of critical thinking, which is the act of evaluating and assessing the events that have occurred (Pham et al., 2020).

Because it enables students to take a step back and consider how to solve the problem and how a set of problem-solving methods is done to reach their goals, RT is the most crucial ability in promoting learning during complicated problem-solving circumstances (Akpur, 2020; Orakcı, 2021). Ozudogru (2021) defined RT as actively, continuously, persistently, and thoughtfully evaluating all that is assumed to be true or the format of knowledge with corroborating evidence leading to a conclusion. The features of reflective therapy (RT) are defined by Chen et al. (2020) as follows: (1) reflection as self-reflection or retrospective analysis (ability to judge oneself); (2) reflection as a problem-solving process (awareness of how one learns); (3) self-critical reflection (continually developing self-improvement); and (4) reflection on success and self-confidence. Reflective students typically take their time answering questions and considering the veracity of their responses.

Reflective people reply extremely slowly and thoughtfully, yet they typically provide accurate responses (Kholid et al., 2020). Students that are reflective are more likely to be able to solve issues, make decisions, recall organized knowledge, and read by comprehending and interpreting texts. Additionally, they may choose their own learning objectives and focus on pertinent material. Their job standards are often quite high (Kablan & Gunen, 2021). It is the responsibility of all educational levels to empower RT skills. Because belief in RT is intimately linked to students' ability to assess themselves, it is significant. Aslam et al. (2021) suggest that RT can also be employed to promote cognitive processes during problem-solving. Students can investigate issues by recognizing the principles involved, applying a variety of tactics, formulating ideas, drawing conclusions, reexamining answers, and coming up with other ways by employing RT, which allows them to predict the right answer right away (Kablan & Gunen, 2021).

Furthermore, as an essential component of the teaching and learning process, HOTS is strongly linked to thinking abilities that come after the cognitive, emotional, and psychomotor domains, according to Qasrawi and Beni Abdelrahman (2020). Thus, in terms of cognitive, emotional, and psychomotor components, learning achievement is influenced by RT skills, one of the HOTS. According to Kember et al. (2000), RT consists of four primary stages: habitual action, comprehension, reflection, and critical reflection. A learned behavior that is automatically executed, like riding a bike or driving a car, is called a habitual action. According to Porntaweekul et al. (2016), understanding is "thoughtful action (that) makes use of existing knowledge, without attempting to appraise that knowledge." "Critical reflection" is primarily concerned with a substantial shift in our perspective, whereas "reflection" encompasses the evaluation of presumptions on the content and/or process of issue solving (Dwyer et al., 2014).

## Self-assessment

Pierce (1999) defined assessment as a useful tool that demonstrates to teachers and students that they are improving their foreign language proficiency. This encourages students to recognize their own advantages and disadvantages and builds their capacity for self-directed learning. SE is considered one of the many tools that educators and students use to gauge their progress and determine how well they are learning or imparting knowledge (Asdar, 2017). According to Goral and Bailey (2019), learner SE tools are regarded as well-structured instruments that help students understand the goal of the work and the evaluation criteria. Additionally, they stated that learner SE is a technique for determining what students can and cannot accomplish. According to Panadero et al. (2018), students who evaluate themselves do better in classroom settings. Several researches concluded that SE raises students' awareness of their own progress. Additionally, it raises students' intrinsic drive.

However, Yan et al. (2020) thought that SE is a useful instrument for teachers' professional development as well. Teacher SE, according to Sahli and Benaissi (2019), is the ongoing process by which educators evaluate their methods, approaches, talents, and points of view in order to make necessary modifications. They also thought that student involvement in academic settings is accelerated by teacher SE. One definition of teacher SE is the application of a sequence of feedback methods by the instructor with the goal of instructional self-improvement. In contrast to several assessments conducted by an outside evaluator, Marzano and Toth (2013) found that SE can accurately represent a teacher's competence in educational settings.

Teacher SE was also praised by Borg and Edmett (2019) as an excellent technique for assessing teacher effectiveness. Additionally, they indicated that teacher SE had the most impact on improving teaching effectiveness when compared to other forms of teacher evaluation. According to them, teacher SE may be carried out by SE-observing, which involves completing SE questionnaires after teaching to evaluate the benefits and drawbacks of instructional performance. Additionally, educators have the ability to videotape lessons and classroom activities so that, with the assistance of experts, they may carefully review their actions. Rather of waiting to see the results of the course until the conclusion, asking students about their opinions and thoughts about the instructional activities might provide opportunities for formatively enhancing the education.

Additionally, projects and test results are useful indicators of student learning accomplishment and instructor effectiveness (Borg & Edmett, 2019). Thus, SE can improve instructors' affective and cognitive understanding regarding how they approach teaching in educational environments, as noted by Allen and Chaerles (2017). They added that teacher knowledge of students' academic needs is raised by teacher SE. Research on the function of teacher SE in educational settings has been conducted. According to Lumpe et al. (2000), there is a strong link between teacher motivation and SE. Furthermore, in order to strengthen their bonds with students, EFL instructors must assess themselves, according to Nova and Sukyadi (2017). They maintained that by reflecting on their own assignments and lessons, EFL teachers may cultivate a favorable relationship with their students.

According to Thanh (2019), educators who employ the SE technique may assess the educational situation and hold themselves accountable for applying the methodology in

EFL contexts. According to Borgmeier et al. (2016), instructors who are aware of realworld issues are better able to come up with solutions that will improve and modify their methods of instruction. Stronge (2006) posits that an educator's views and judgments regarding an issue and its potential for improvement are influenced by their values, beliefs, past experiences, and the systems of support that are in place at the school. Pourjamal Ghouyjagh et al. (2018) discovered that there is a considerable difference between the evaluation of teaching effectiveness by learners and the judgments of more experienced EFL instructors regarding their own efficacy. This study examined the link between teacher SE and teaching experience. They did note, though, that having a job enhances an instructor's ability to collaborate with other educators to improve the effectiveness of their instruction.

## Academic well-being

The primary goal of positive psychology (PP) is to promote enjoyment and well-being. PP acknowledges that issues arise in life, but approaches them with a perspective of social strength rather than weakness (Seligman, 2018). Well-being, which is linked to life fulfillment, consists of self-worth, positive relationships with others, independence and capacity, and goal-orientedness. Additionally, learners benefit greatly from an emphasis on individual development since it promotes optimal functioning and engagement. Two essential perspectives that make up well-being are hedonia and eudaimonia (Mercer, 2020).

Hedonia, or universal contentment, is defined as being in proximity to environmental and emotional relief, possessing a pleasurable impact, and lacking an unpleasant influence. On the other hand, eudaimonia refers to the state of continuously striving for values and whole mental actualization (Giuntoli et al., 2021). Both of the essential phrases highlight a positive emotion; however, the eudemonic method is focused on people's happiness, pleasure, and affections at a certain moment, while the hedonic approach is (Disabato et al., 2016). Easing pleasure and subjective well-being is the main goal of PP (Seligman, 2018).

Experts in optimistic psychology attempt to gauge well-being from an optimistic vantage point. According to Greenier et al. (2021), the optimistic mind research motion, well-being is characterized by "optimistic and maintainable traits" that enable individuals and organizations to strive for growth. According to Seligman (2018), there are various quantifiable components that contribute to the development of the five-theme framework of PERMA, which encompasses positive affections, relationships, engagement, meaningfulness, and accomplishment. Pleasure, optimism, and well-being are examples of positive emotions that are seen to be part of the hedonic spectrum of emotional states that serve as success indicators since they may help people flourish and can be taught and improved (Fredrickson, 2001).

According to Derakhshan (2021), engagement is most frequently defined as a thorough participation or flow that is primarily meant to be inspirational while doing a task. Over the course of a person's life, goal-setting, tracking, and accomplishment improve wellbeing (Heckhausen et al., 2010). Positive relationships entail appreciating one's social connection and feeling accepted, acknowledged, and empowered by society. Overall well-being as well as positive outcomes from physical and mental well-being are associated with societal support (Greenier et al., 2021). The idea that a person's life has purpose and a route across it is known as meaning. It encompasses good feelings across a range of age groups and a sense of belonging to something greater (Yang, 2021). Aiming for wellness, achievement is typically associated with goal-setting, skill development, and success (Fredrickson, 2001).

## Mindfulness

First of all, it may be noteworthy to note that the word "mindfulness" comes from the Pali word "sati," which denotes awareness and attentiveness (Bodhi, 2000). There is enough evidence in the literature that two different but equally significant viewpoints have been used when discussing the idea of mindfulness. The main and out-of-date perspective is meditative in nature; as the name implies, it is a concept based on meditation that was inspired by Buddhism, the Noble Eightfold Path, and Eastern Vipssana practices (Kornfeld, 2009). These practices' adherents have been searching for veridical perception and/or "objective truth" (Pirson et al., 2012). In this context, "a moment-by-moment awareness proposed by Germer et al. (2005)" might be a concise and loose description of mindfulness.

However, Martin (1997) provided a more thorough definition of mindfulness around twenty years ago. Martin defined mindfulness as a free psychological state of mind that an individual feel when they are separated from all viewpoints. Later, scholars modified and expanded the definitions in the literature to make them broader and more scientific. Bishop et al. (2004), for example, define mindfulness as a range of mental processes aimed against strengthening problematic beliefs, emotions, and behaviors while understanding and enhancing the functioning ones.

Furthermore, according to Bishop et al. (2004), mindfulness consisted of two primary elements: (a) attention management self-regulation and (b) experience orientation. Kabat-Zinn (2003) defined mindfulness as an individual's deliberate, non-judgmental awareness of their present sensory and cognitive experiences. One thing that all of the aforementioned definitions have in common is that growing mindfulness requires no intentional effort or endeavor; instead, one should be spontaneous and live in the moment, using all of one's senses (Van Gordon & Shonin, 2017).

The alternative method of practicing mindfulness is essentially socio-cognitive. In this context, mindfulness is defined as the capacity to see patterns in a situation and generate original thoughts (Langer, 2009). While socio-cognitive mindfulness is utilized as a tool for problem solving and is novelty seeking, meditation-based mindfulness is widely recognized as one of the foundations of many treatment therapies (Pirson et al., 2012). According to Bodner and Langer (2001), there are perhaps three primary sub-constructs that make up this mindset: (a) novelty seeking, (b) novelty creating, and (c) engagement. David and Sheth (2009) took a mindfulness-in-education perspective, pointing out that because mindful students have more attention and awareness, they do better academically and achieve more. Research has also shown that, compared to their thoughtless colleagues, mindful instructors are usually healthier, more focused on their work, more sensitive to the needs of their pupils, and more emotionally stable.

More precisely, Sheikhzadeh and Khatami (2017) conducted ground-breaking studies with EFL students in Iran to determine the relationship between academic success, mindfulness, and critical thinking. Their research revealed no connection between improved reading comprehension and critical thinking. Additionally, there was no discernible connection between mindfulness and critical thinking. However, it did demonstrate how important mindfulness is to both academic success and reading comprehension. In conclusion, the evidence demonstrates that mindfulness training augments the quantity of resilience and increases brain function in both learners and instructors (Fallah, 2017).

Since then, mindfulness has been widely used in health-related domains during the past three decades, and several advantages, including lowered stress levels and enhanced brain activity as well as better overall well-being in terms of both physical and mental markers, have been documented (Wang & Liu, 2016). The last 10 years have seen a remarkable surge in the use of mindfulness techniques, and attention has only just been drawn to their use in the area of education (e.g., Hooker & Fodor, 2008; Tasan et al., 2021). There is a need for research and practices on teaching and spreading mindfulness practices, particularly in EFL education, since the integration of mindfulness-based treatments in educational contexts is a new area of interest (Zeilhofer, 2020; Zeilhofer & Sasao, 2022).

## Resilience

Numerous domains and levels of investigation, including the biological, personal, and social ones, have already been used to study resilience (Reich et al., 2010). This concept may be briefly described as the capacity to adjust to changes, follow through, and achieve goals despite obstacles already in place (Howard & Johnson, 2000). Resilience in educational contexts refers to the ability of a person, group, or institution to adjust, bounce back, and continue operating following changes and hardships (Schelvis et al., 2014).

Resilience has three fundamental components: (1) the capacity to adjust and alter as needed; (2) the capacity to be "elastic" and bounce back rapidly from setbacks, obstacles, or changes; and (3) the capacity to maintain one's composure and vitality in the face of setbacks (Schelvis et al., 2014). Four theories that are pertinent to resilience in various contexts have been proposed in the literature. One of these theories, resilience engineering, addresses the four abilities of responding, monitoring, anticipating, and learning (Hollnagel, 2011). Organizational mindfulness, the second hypothesis (Weick & Sutcliffe, 2007), focuses on potential challenges to resilience. Finally, resilience as a social system, which views resilience as an interpersonal asset, is the third theory, which focuses on employee commitment and restrictions from a human resource management viewpoint (Van Breda, 2011).

It is important to note that in all of the aforementioned theoretical frameworks, managing variance and shifting needs comes first. Empirical scholars in the domains of psychology, psychopathology, and business have created resilience models and carried out several studies on this subject (Wright & Masten, 2006). However, this characteristic has not received much attention in education, particularly in L2 learning, with the exception of a small number of research (Kim & Kim, 2017; Nguyen et al., 2015). According to these findings, academically resilient adolescents perform well and remain highly motivated even under trying and stressful circumstances. Regarding the significance of resilience, academic resilience has just lately been investigated in relation to teacher-related concerns (Nolan et al., 2014). According to Kim and Kim's (2017) research, learners' motivational behavior is significantly influenced by resilience and its sub-constructs, which are crucial to L2 learning. Based on their research, it can be said that resilient learners outperform non-resilient pupils in L2 acquisition because of their driven behavior. Stated differently, their innate motivations encourage them to reach their full potential. According to Najafzadeh et al. (2018), resilience in second language acquisition is positively and significantly predicted by one's own best aspirations. Additionally, they showed that resilience and one's own best aims may both predict language development.

## **Experimental studies**

Some empirical research was done on the effects of SE and RT. The study conducted by Alibakhshi and Sarani (2014) sought to determine how SE affected the accuracy and fluency of speaking for intermediate and upper-level language learners in Iran. In a pre-test–posttest control/experimental group design, thirty pre-intermediate and thirty upper-intermediate students took part in the research. The ANCOVA test was used to evaluate the data. The findings showed that participants' speaking accuracy and fluency were positively impacted by SE. Additionally, upper-intermediate learners were more affected by SE than pre-intermediate learners were.

Jafari et al. (2015) looked into how SE affected the language proficiency and ambiguity tolerance of Iranian intermediate EFL learners. Thus, the experimental and control groups were each composed of 20 EFL intermediate learners. The experimental group engaged in self-evaluation. Participants in the control group, however, just received standard evaluations. The degree to which students could tolerate ambiguity was determined by administering an Ambiguity Tolerance Questionnaire. The study's findings showed that when self-assessment had an impact, learners' tolerance for ambiguity increased. The overall competency of the learners may also be impacted by their SE.

The substantial benefits of RT in education are reflected in the evaluation of the body of research on the subject. Porntaweekul et al. (2016), for example, discovered that the techniques used in RT provide good learning results. Ibrahim Alian's (2019) research sought to determine how reflective thinking techniques affected the EFL student instructors' acquisition of literary reading abilities and metacognitive reading awareness. The quasi-experimental design was used in the investigation. 40 major English students from Zagazig University in Egypt's third-year Faculty of Education made up the experimental group that took part in the study. Shakespeare's King Lear is taught in fourteen sessions as part of the treatment. Two instruments were employed: a metacognitive reading awareness scale, which was also created by the researcher and authorized by the jury members, and a literary reading exam that was created and used as a pre-posttest. Using the SPSS software, parametric statistical computations were utilized for data analysis. The EFL student instructors' literacy reading skills and metacognitive reading awareness improved as a result of reflective thinking, according to the findings.

In a similar vein, Davoudi and Heydarnejad (2020) investigated, via cross-contextual research, the impact of RT on students' academic success. According to their findings, MA students were more effective than BA students because they employed habitual

action and understanding, whereas MA students adopted contemplation and critical reflection. Moreover, RT—a crucial component of reflective teaching—has been shown by Namaziandost et al. (2022) to promote instructors' productive immunity and emotional control.

Karimi et al. (2022) created an additional survey in an effort to gauge how well RT works to raise metacognition awareness and, in turn, improve reading comprehension. To do this, 63 EFL students were split into experimental and control groups using a quasi-experimental approach. The MANOVA results showed that because the experimental group's students used RT tactics in their lessons, they did better than their counterparts in the control group. They also came to the conclusion that RT had an impact on students' assessments.

The purpose of Demirbulak et al. (2022) was to investigate how undergraduate English majors' self-efficacy views were affected by ongoing SE. A study involving 102 participants was conducted at a private university's school of foreign languages to see if there has been a shift in students' perceptions of their language competency. With the use of qualitative and quantitative research techniques, a self-efficacy scale, a self-assessment questionnaire, and self-reflection checklists, data were gathered for the quasi-experimental study. A self-efficacy scale was given to the experimental and control groups at the start and conclusion of the term. The EG's participants evaluated themselves on a weekly basis using a self-assessment questionnaire and self-reflection checklists for the course of the term. Based on the overall findings, it was discovered that students felt more proficient about a work when they were given the chance to use self-assessment questionnaires to determine their strengths and shortcomings during a skill-based assignment.

The literature review shows that RT and SE are two important variables in English language learning. They are contributing factors in learning and teaching English as a foreign language. Despite their significant role in teaching and learning, these two variables have not received the attention they deserve. In other words, there are not adequate empirical studies on the effects of RT and SE on Saudi Arabian EFL learners' growth mindfulness, academic well-being and resilience. Therefore, this issue motivated the researchers to conduct this study in order to fill this gap by posing the following questions:

Three research questions were posed in this research:

*RQ1* Does using RT and SE affect Saudi Arabian EFL learners' growth mindfulness equally?

RQ2 Does using RT and SE affect Saudi Arabian EFL learners' resilience equally?

*RQ3* Does using RT and SE affect Saudi Arabian EFL learners' academic well-being equally?

Regarding the questions, the following hypotheses were recommended:

*HO1* Using RT and SE does not affect Saudi Arabian EFL learners' growth mindfulness equally.

HO2 Using RT and SE does not affect Saudi Arabian EFL learners' resilience equally.

HO3 Using RT and SE does not affect Saudi Arabian EFL learners' academic wellbeing equally.

## Method

## **Research design**

This study used a quantitative research approach and a quasi-experimental research methodology. Growth mindfulness, resilience, and academic well-being scales were used to gather the data. The scales used in the quantitative research approach were applied to the individuals in the three groups both before and after the tests. The EGs received treatment with RT and SE in between the pre- and post-test.

#### Participants

Ninety-six Saudi Arabian intermediate EFL students studying English at Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia, Saudi Arabia made up the sample participated in this study. With a mean age of 22 years and a range of 16–27, the participants were made up of 47 females and 49 males based on convenience sampling method. The students, who were all native Saudi Arabian speakers, voluntarily took part in this convenience sample-based study. It is also important to note that the participants gave their consent to participate in the study and that, because the scales did not ask for names, they were guaranteed complete anonymity for their answers. Two experimental groups (EGs) of RT (n=31), SE (n=32), and one control group (CG) (n=32) were formed from the chosen individuals.

## Instruments

The first tool used in this study to verify that students' competency level was intermediate was an Oxford Quick Placement Test. The 60 multiple-choice questions on the OQPT, a well-liked and globally renowned language proficiency exam, cover grammar, vocabulary, and reading comprehension. The OQPT grading rubric classifies students as intermediate if their score falls between 30 and 47.

The Ling et al. (2022) well-being scale was employed in this investigation was the second instrument. The instrument had six distinct dimensions scales designed to assess the overall well-being of students: academic, psychological, self-, physical, social, and spiritual. This scale examined the well-being of EFL learners using 24 items. For every item, a 6-point frequency rating system was employed. The Cronbach's alpha coefficient for the current research was 0.87, indicating a satisfactory level of dependability.

Information on the resilience of L2 learners was gathered using the English version of the L2 resilience measure developed by Shin et al. (2009). On a five-point Likert-type scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," participants answered 26 items. It is also important to note that the five sub-constructs of this scale are subjective happiness (Cronbach alpha=0.85), empathy (alpha=0.81), sociability (alpha=0.77), perseverance (alpha=0.65), and self-regulation (alpha=0.65).

The Langer Mindfulness Scale (LMS), created by Pirson et al. (2012), was the fourth tool used to gauge the respondents' degree of mindfulness. This 14-item,

English-language measure assesses the three aspects of novelty seeking, novelty creating, and engagement (some sample items are included in Appendix 1). The seven-point Likert-type scale used to display these topics ranges from 1 (strongly disagree) to 7 (strongly agree). Furthermore, the measure exhibits a respectable level of internal consistency, with Cronbach alphas ranging from 0.8 to 0.9. The instruments were piloted on 25 students whose characteristics (English proficiency level, age, and gender) were the same as the target groups. All the instruments were validated by three English experts in Applied Linguistics. The aforementioned scales were administered both as the pre- and post-tests of this study.

## **Procedures and analysis**

96 Saudi Arabian EFL students were selected for this study and divided into two EGs (RT & SE) and a CG. Next, each group received the growth mindfulness, resilience, and academic well-being measures. The team next studied the relevant literature on RT and its potential uses. A method for improving experience-based learning is the reflective cycle. People may use it to analyze and reflect on their responses to various events, learn from their mistakes, and make sense of their surroundings. One of the most well-known cyclical models of reflection walks students through six phases of experience exploration: conclusion, action plan, analysis, assessment, description, and feelings. As a result, the researchers created a lesson plan that covers these processes in language instruction. Maintaining progress updates was a crucial aspect of Rapid Translation. Each student was given a notebook in which they could track their learning progress and consider areas for growth or failure. The students in the SE class were in charge of their own evaluation. For every student, the researcher created an internet presence or portfolio. Every session, they reported on their development. Students even suggested an exam and took it themselves. These assessments were shared, thus the test creator revised the papers once their colleagues completed the tests. On the other hand, the CG pupils were taught conventionally without the use of SE and RT. The aforementioned surveys were readministered as study post-tests following a 21-session treatment, and the results were analyzed using One-way ANOVA and Tukey tests.

## Results

To determine if the data were normally distributed, the Shapiro–Wilk test was applied. The results showed that all dependent variable scores on the pre- and post-tests had a normal distribution. Accordingly, the data was analyzed using parametric statistics. We analyzed the scores gained in pre-tests and post-tests and reported the results in the following tables:

Table 1 shows the descriptive data for each of the three groups. The RT group's average is 53.25, while the CG's is 54.40. The SE group's pre-test mean score for well-being is 54.53. This implies that prior to the intervention, the three groups' academic wellbeing was similar.

The Sig value (0.60) in Table 2 is higher than 0.05, suggesting that there is no statistically significant difference between the groups. The pretest revealed that all three groups had identical performance.

	Ν	Mean	Std. Deviation	Std. Error
CG	32	54.40	9.04	1.59
RT	32	53.25	9.56	1.69
SE	32	54.53	8.75	1.54

## Table 1 Well-being pre-test descriptive statistics

#### Table 2 Well-being pre-test inferential statistics

	Sum of squares	df	Mean square	F	Sig
Between groups	83.27	2	41.63	0.50	0.60
Within groups	7745.68	93	83.28		
Total	7828.95	95			

#### Table 3 Well-being post-test descriptive statistics

	N Mean		Std. Deviation	Std. Error	
CG	32	56.21	8.97	1.58	
RT	32	67.50	20.92	3.69	
SE	32	68.28	20.20	3.57	

#### Table 4 Well-being post-test inferential statistics

	Sum of squares	df	Mean Square	F	Sig.
Between groups	2916.06	2	1458.03	4.72	0.01
Within groups	28,717.93	93	308.79		
Total	31,634.00	95			

The aforementioned table's (Table 3) descriptive data indicates that the CG group's average on the well-being post-test was 56.21, whereas the RT group's average was 67.50. The other EG's mean score was 68.28 as well. It appears that the three groups performed differently on the post-tests measuring well-being.

Table 4 demonstrates that there were significant variations in the way the members of the three groups performed on the post-tests measuring well-being. On the post-test of academic well-being, the EG participants really fared better than the control group. Because the Sig value (0.00) is less than 0.05, there was a significant difference between the three classes' results on the academic well-being post-tests, favoring the EGs.

The mean scores of each group on the post-tests for academic well-being are compared in Table 5. An examination of the data in the aforementioned table revealed a substantial variance between conditions, p < 0.05. In other words, the post-test results for both EGs and the control group differ significantly (p < 0.05). The academic well-being post-test results for the two EGs do not differ statistically significantly, according to this table.

Table 6 displays descriptive statistics of the resilience pre-test for each of the three groups listed below. In fact, the CG, RT, and SE groups had mean scores of 50.90, 51.93,

	(I) Groups	(J) Groups	Mean	Std. Error	Sig	95% Confidence Interval	
			Difference (I-J)			Lower Bound	Upper Bound
Tukey HSD	CG	RT	- 11.28	4.39	0.03	- 21.74	- 0.81
		SE	- 12.06	4.39	0.02	- 22.52	— 1.59
	RT	CG	11.28	4.39	0.03	0.81	21.74
		SE	- 0.781	4.39	0.98	- 11.24	9.68
	SE	CG	12.06	4.39	0.02	1.59	22.52
		RT	0.78	4.39	0.98	- 9.68	11.24
	CG	RT	- 11.28	4.39	0.04	- 22.21	- 0.35
		SE	- 12.06	4.39	0.02	- 22.99	- 1.13
	RT	CG	11.28	4.39	0.04	0.35	22.21
		SE	- 0.78	4.39	0.98	- 11.71	10.14
	SE	CG	12.06	4.39	0.02	1.13	22.99
		RT	0.781	4.39	0.98	- 10.14	11.71

### Table 5 Results of Tukey test in well-being post-tests

 Table 6
 Resilience pre-test descriptive statistics

	Ν	Mean	Std. Deviation	Std. Error
CG	32	50.90	9.76	1.72
RT	32	51.93	9.28	1.64
SE	32	49.96	9.03	1.59

Table 7 Resilience pre-test inferent	ial statistics
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	Sum of squares	Df	Mean square	F	Sig.
Between groups	62.06	2	31.03	0.35	0.70
Within groups	8159.56	93	87.73		
Total	8221.62	95			

Table 8	Resilience	post-test	descriptive	statistics
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N		Mean	Std. Deviation	Std. Error	
CG	32	54.93	11.53	2.03	
RT	32	67.09	21.24	3.75	
SE	32	66.12	19.68	3.47	

and 49.96, respectively. This suggests that on the resilience pre-test, the three means of each group performed nearly equally.

As can be shown in Table 7, Sig (0.70) is higher than 0.05, indicating that there is no significant difference between the groups at (p < 0.05). When it came to the resilience pre-test, they really did the same. The findings in this table demonstrate that the three groups' levels of resilience were equal prior to the treatment.

The resilience post-test descriptive data for each group are shown in Table 8. The mean score for the RT group is 67.09, the mean score for the SE group is 66.12, and the

mean score for the CG is 54.93. This signifies that the groups performed differently on the resilience post-test.

Table 9 shows that the difference between the groups is significant at (p < 0.05) since Sig (0.01) is less than 0.05. In actuality, EGs fared better on the resiliency post-test than the CG. A Tukey test was performed to display the precise differences between the three groups in the following table.

The resilience post-test mean scores for each group are compared in Table 10. The EG and CG post-tests differ significantly from one another (p < 0.05), as seen in the following table. This table demonstrates that there is no discernible difference between the RT group and SE group's resilience post-test results.

The three groups' descriptive data are shown in Table 11. Every group's means are almost equal. The mean score for the RT group is 55.09, the mean score for the SE group is 43.90, and the mean score for the CG is 43.15. Given that all of the groups were the same at the start of the therapy, this indicates that they were all quite comparable.

### Table 9 Resilience post-test inferential statistics

	Sum of squares	df	Mean square	F	Sig.
Between groups	2921.313	2	1460.656	4.510	0.014
Within groups	30,120.094	93	323.872		
Total	33,041.406	95			

	(I) Groups	(J) Groups	Mean	Std. Error	Sig.	95% Confidence Interval	
			difference (I–J)			Lower bound	Upper bound
Tukey HSD	CG	RT	- 12.15	4.49	0.02	- 22.87	- 1.44
		SE	- 11.18	4.49	0.03	- 21.90	- 0.47
	RT	CG	12.15	4.49	0.02	1.44	22.87
		SE	0.96	4.49	0.97	- 9.74	11.68
	SE	CG	11.18	4.49	0.03	0.47	21.90
		RT	- 0.96	4.49	0.97	- 11.68	9.74
	CG	RT	- 12.15	4.49	0.03	- 23.34	- 0.96
		SE	- 11.18	4.49	0.05	- 22.38	0.00
	RT	CG	12.15	4.49	0.03	0.96	23.34
		SE	0.96	4.49	0.97	- 10.22	12.16
	SE	CG	11.18	4.49	0.05	- 0.00	22.38
		RT	- 0.96	4.49	0.97	- 12.16	10.22

## Table 10 Results of Tukey test in resilience post-tests

 Table 11
 Mindfulness pre-test descriptive statistics

	Ν	Mean	Std. Deviation	Std. Error
CG	32	43.15	9.84	1.74
RT	32	44.09	9.34	1.65
SE	32	43.90	9.16	1.62

	Sum of squares	df	Mean square	F	Sig.
Between groups	15.75	2	7.87	0.08	0.91
Within groups	8317.65	93	89.43		
Total	8333.40	95			

Table 12 Mindfulness pre-test inferential statistics

To identify any possible significant difference(s) between the pre-test results of the three groups, Table 12 employed a One-way ANOVA test. The difference in the sample groups' means is not statistically significant at (p < 0.05), as the significance level (0.08), which is used to test means, is higher than 0.05. In actuality, EGs and CG did not differ in their performance on the mindfulness pre-test.

The descriptive statistics for the three groups' results on the mindfulness post-test are displayed in Table 13. In actuality, the CG, RT, and SE had mean scores of 48.00, 52.84, and 53.96, respectively. This suggests that on the mindfulness post-test, the three aforementioned groups did not perform similarly.

Table 14 shows that there is a significant difference between the EGs and CG at (p < 0.05), with a strength of Sig (0.00) less than 0.05. In actuality, the EGs did better on the mindfulness post-test than the CG.

The mindfulness post-test mean scores for each group are compared in Table 15. An examination of the data in the aforementioned table revealed a substantial variance between conditions, p < 0.05. In other words, there is a substantial difference (p < 0.05) between the CG's post-test and the ones from both EGs. The mindfulness post-test results for the two EGs do not differ statistically significantly, according to this table.

In a nutshell, the results indicate that there were significant differences between the post-tests of the two EGs and CG in favor of the EGs. The findings show that SE and RT had equal effects on growth mindfulness, resilience, and academic well-being of Saudi Arabian EFL students.

	Ν	Mean	Std. Deviation	Std. Error		
CG	32	48.00	8.23	1.45		
RT	32	52.84	6.48	1.14		
SE	32	53.96	7.42	1.31		

 Table 13
 Mindfulness post-test descriptive statistics

Tab	le 14	Mindfulne	is post-test infe	erentia	l statistics
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	Sum of Squares	df	Mean square	F	Sig.
Between groups	643.77	2	321.88	5.85	.00
Within groups	5115.18	93	55.00		
Total	5758.95	95			

	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig	95% Confidence Interval	
						Lower bound	Upper bound
Tukey HSD	CG	RT	- 4.84	1.85	0.02	- 9.25	- 0.42
		SE	- 5.96	1.85	0.00	- 10.38	— 1.55
	RT	CG	4.84	1.85	0.02	.42	9.25
		SE	- 1.12	1.85	0.81	- 5.54	3.29
	SE	CG	5.96	1.85	0.00	1.55	10.38
		RT	1.12	1.85	0.81	- 3.29	5.54
	CG	RT	-4.84	1.85	0.03	- 9.45	- 0.23
		SE	- 5.96	1.85	0.00	— 10.58	— 1.35
	RT	CG	4.84	1.85	0.03	0.23	9.45
		SE	- 1.12	1.85	0.83	- 5.73	3.48
	SE	CG	5.96*	1.85	0.00	1.35	10.58
		RT	1.12	1.85	0.83	- 3.48	5.73

### Table 15 Results of Tukey test in mindfulness post-tests

## **Discussion and conclusion**

After analyzing the data, the results indicated that there were significant differences amongst the post-tests of the EGs and CG. Actually, EFL students' progress, resilience, and academic well-being were enhanced by applying RT and SE. These findings align with the theoretical and empirical research supporting the importance of SE in language instruction. The findings build upon the conclusions of earlier research (Butler & Lee, 2010; de Saint Léger, 2009). The current study's results support those of de Saint Léger (2009), who asserts that self-perception improves with time due to SE in terms of vocabulary, fluency, and self-assurance while speaking in L2. Her research focused on the possible cognitive and emotional pedagogical benefits of SE.

Our findings similarly corroborate those of Butler and Lee (2010), who indicated that SE had a marginally favorable impact on the confidence and performance of English language learners but that learners' capacity to self-assess their performance increased with time. Furthermore, Alibakhshi and Sarani (2014), who verified the impact of SE on intermediate and upper-intermediate language learners' speaking fluency and accuracy in Iran, support the study's findings.

There are a few explanations for why SE was successful in fostering the growth, resilience, and academic well-being of EFL students. As Wragg (2004) noted, SE may increase students' knowledge, encourage learning, increase their understanding of course material and assessment concepts, and include them in the assessment process—that is, share the assessment load with them. SE can assist students in enhancing their writing (Purwanti, 2015), reading (Ghaslani, 2015), speaking (Shahrakipour, 2014), and listening (Alibakhshi & Shahrakipour, 2014, 2014) English language proficiency in EFL courses.

Birjandi and Tamjid (2012) assert that using a small amount of SE in EFL classes will increase students' engagement with the material. Teachers will have the ability to provide students constructive criticism and timely formative feedback in addition to giving each student the option to regularly assess his performance. Additionally, SE promotes students' active engagement in their education and assessment (Shahrakipour, 2014),

which can help students develop their independence, autonomy, and capacity for lifelong learning (Honsa, 2013).

Furthermore, as stated by Lihui (2013), SE directs students to identify their strengths and weaknesses without damaging their self-esteem. It also gives them more control over their education and increases their responsibility for it, allowing them to learn more efficiently. Additionally, SE makes students more reflective in their learning, more involved in their own learning, and more aware of the assessment criteria. Furthermore, as mentioned by Fulcher (2010), SE gives pupils extra learning chances and results in higher learning benefits.

Fulcher (2010) asserts that SE can raise students' self-esteem and motivation. According to Cuesta-Melo et al. (2022), SE helps students become more motivated because it gives them a sense of ownership over the learning process, enables them to determine the performance they want to achieve, and tracks their progress toward that performance. According to Norouzi Larsari et al. (2023), the formative character of SE can allow students to concentrate on particular areas of their performance and track their progress in those areas, which can increase students' motivation. Additionally, Huang (2022) claimed that SE can raise students' confidence, learning goal orientation, and selfefficacy among EFL learners.

Our results align with Porntaweekul et al. (2016)'s findings about the efficacy of RT in enhancing the development, resilience, and academic well-being of EFL students. They discovered that the tactics employed in RT contribute to valuable learning outcomes. Furthermore, our results concur with those of Karimi et al. (2022), who confirmed that RT is beneficial for raising metacognition awareness and reading comprehension in EFL students. Furthermore, Davoudi and Heydarnejad (2020), who investigated the beneficial function of RT in learners' academic attainment in a cross-contextual manner, corroborate the findings of the current study. Additionally, our findings support the findings of Namaziandost et al. (2022) that teachers' productive immunity and emotion management are enhanced by RT.

The benefits of RT on the development of EFL students' academic well-being, resilience, and mindfulness can be attributed to a few factors. Students can learn how to consider the most effective approaches for accomplishing learning objectives through RT. Furthermore, via evaluation procedures, RT can assist individuals in integrating their thinking skills (Maksimović & Osmanovic, 2019). For pupils to solve issues as effectively as possible, RT is crucial (Spears et al., 2021). As a result, it influences how students make decisions about all aspects of learning accomplishment, including cognitive, emotional, and psychomotor tasks. Several investigations, including Akpur (2020), Pham et al. (2020), and Chen et al. (2019), support this notion.

Additionally, Kholid et al. (2020) assert that in order for pupils to understand how to handle issues in daily life, they need possess RT abilities. One may comprehend, critique, appraise, identify potential solutions, and analyze the topics under study using RT. Teachers may assist students in honing their RT abilities by providing them with a variety of teaching strategies, problem-based learning models, and open-ended essay questions (Toman, 2017; Yilmaz, 2020).

It is evident from the findings and the discussion above that RT and SE have a beneficial impact on EFL learners' learning achievement. Thus, it can be said that

RT and SE are both useful teaching strategies for EFL classrooms. Since SE and RT are uncommon in FEL situations, we should expand our understanding of them among teachers and students. Therefore, students may better comprehend the targeted learning goals, recognize their strengths and weaknesses, and create plans for future improvement by adding SE and RT exercises into standard ELT classes (Bachman, 2015). According to Aldosari et al. (2023), the majority of students said that SE was beneficial as it allowed them to communicate more effectively by admitting their flaws and strengths. It takes methodical, regular processes to teach pupils how to evaluate themselves. To get accurate results, SE training exercises must be carried out consistently, with learners receiving ongoing direction and materials being utilized. In addition, in order to carry out this process, students must comprehend SE. If not, they won't think it's important or they won't execute it well.

Teachers should take note of the findings of this study. Teachers may create improvements in their awareness and attitude that will help them advance professionally by implementing reflective teaching. The findings of this study can benefit both teachers and students in the teaching and learning process by introducing reflective teaching, which can support teachers in developing their critical thinking skills, thinking critically about their own methods and approaches, and evaluating the benefits and drawbacks of their instruction in order to modify both their methods and the behaviors of their students.

Additionally, there may be some ramifications for EFL students from the findings. By asking students to: (a) relate new information to prior understanding; (b) think in both abstract and conceptual terms; (c) apply particular strategies in novel tasks; (d) understand their own thinking and learning strategies; and (e) reflect on their experiences to allow integration of new learning into existing knowledge and skill, RT helps students develop higher-order thinking skills.

Furthermore, we may draw the conclusion that this study can help students in some ways when they are studying. Through SE, for instance, students' motivation to meet learning objectives may be increased. Additionally, they can communicate with the professors more effectively. In order for pupils to fulfill learning objectives and develop their abilities for future performances, SE may also encourage individual learning. Additionally, by identifying their areas of strength and weakness in their English language learning, students may find the study's conclusions helpful. Through this study, instructors may become partners and facilitators while also assisting students in becoming peer and self-directed. By observing their peers, students can gain a deeper comprehension of how their peers acquire knowledge. They are self-directed learners. They participate more actively in evaluation and assume greater accountability for their own education.

One of the study's limitations was the tiny sample size of participants. If future researchers want to repeat this experiment in other domains of language skills and sub-skills, they will thus need to make up for this deficiency. Only one sort of alternative assessment was used in this study; other assessment types must be used in order to examine their effects on students' performance on a range of abilities and sub-skills. Owing to the participants' gender, it is advised that future research focus on female students in order to increase the generalizability of the findings.

Furthermore, as our data were quantitative in nature, it is advised that future research gather both qualitative and quantitative data in order to provide more accurate results. Furthermore, there are several EFL situations in Asian nations where this topic might be addressed on.

## Appendix 1

- (1) I like to investigate things.
- (2) I generate few novel ideas.
- (3) I make many novel contributions.
- (4) I seldom notice what other people are up to.
- (5) I avoid thought provoking conversations.
- (6) I am very creative.
- (7) I am very curious.
- (8) I try to think of new ways of doing things.
- (9) I am rarely aware of changes.
- (10) I like to be challenged intellectually.
- (11) I find it easy to create new and effective ideas.
- (12) I am rarely alert to new developments.
- (13) I like to figure out how things work.
- (14) I am not an original thinker

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Author contributions

All authors had equal contribution.

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#### Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Declarations

#### Ethics approval and consent to participate

The study involving human participants did not require ethical review and approval, as it complied with local legislation and university requirements of Saudi Arabia. Written informed consent was obtained from all participants prior to their participation in the study.

#### **Consent for publication**

Not applicable.

#### **Competing interests**

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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