



GRADUATE SCHOOL
ISTANBUL MEDENIYET UNIVERSITY
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION

**Empowering Learner Autonomy for Developing Writing Skills
Through AI-Enhanced Reflective Journals**

Master's Thesis

Sena Könez

June 2024



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Supervisor

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THESIS JURY APPROVAL

This MA thesis titled “Empowering Learner Autonomy for Developing Writing Skills Through AI-Enhanced Reflective Journals” written by Sena Könez at the Department of Foreign Language Education was accepted by our jury.

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STATEMENTS

Style and Reference Manual Statement

Having reviewed this thesis written under my supervision, I confirm that it has been written in accordance with APA (7th Edition) Manual of Style and used its [footnote/in text] reference format consistently throughout the entire text.

Prof. Dr. Selami Aydın

Declaration of Originality

I hereby declare that all information in this dissertation has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conducts, I have fully cited and referenced all material and results that are not original to this work.

Sena Könez

GENİŞ ÖZET

Yapay Zekâ Destekli Yansıtıcı Günlükler Aracılığıyla Yazma Becerilerinin Geliştirilmesi için Öğrenen Özerkliğinin Güçlendirilmesi

Könez, Sena

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Yazma, İngilizce öğretimi ve öğreniminin çok yönlü ve temel bir bileşenidir ve bu beceri küresel iletişime, dilbilgisi temeline, kelime dağarcığı gelişimine ve genel dil yeterliliğine katkıda bulunur (Mandal, 2009; Marlina & Giri, 2014). Yazma, dilbilgisi kuralları, sözcüksel araçlar ve mantıksal bağlar hakkında bilgi sahibi olmanın yanı sıra fikir üretme, fikirleri cümle ve paragraflar halinde oluşturma ve iyi geliştirilmiş formlarda oluşturulan fikirleri ve paragrafları gözden geçirme becerisi gerektirir. Ancak, yabancı dil olarak İngilizce öğrenen öğrenciler, yazma süreçleri sırasında dilsel yeterlilik veya gerekli yazma stratejilerinin eksikliği nedeniyle bu alanlarda sorunlarla karşılaşabilirler. Buna ek olarak yazma, retorik becerileri, çıkarım analizi, kıyassal akıl yürütme ve argüman analizi oluşturmak ve geliştirmek için önemli miktarda zaman, çaba ve özveri gerektiren çok karmaşık bir etkinliktir. Ayrıca, düzenleme veya gözden geçirme, yazma süreçlerinin en zahmetli kısmıdır çünkü öğrencilerin yazılarındaki hatalar, yazma zayıflıklarının göstergesi olabilir (Pelger & Sigrell, 2016; Williams, 2013).

Yazma becerilerinin geliştirilmesinde öğrenen özerkliğinin teşvik edilmesi öğrencilerin kendi öğrenmelerinin sorumluluğunu üstlenmelerini sağlaması, öz disiplin ve sorumluluklarını artırması, öğretmen odaklı öğrenmeyle ilgili kısıtlamaları azaltması ve pratik bir araç olarak yansıtıcı günlüklerin kullanımıyla tamamlanan motivasyon ve özgüveni artırması nedeniyle büyük önem taşır (Lighbown & Spada, 2013). Öğrenen özerkliği, öğrencilerin bağımsız olarak hedef belirleyebilmelerini, öğrenmelerini yönlendirebilmelerini ve denetleyebilmelerini gerektirir. Ancak, bazı öğrenciler bu sorumlulukla mücadele edemeyebilir ve öğretmenlerden ek destek ve rehberliğe ihtiyaç duyabilir. Öğrenen özerkliği aynı zamanda öğrencilerin kendi kendilerini motive etmelerini ve öğrenimleriyle ilgilenmelerini gerekli kılar fakat bazı öğrenciler

motivasyondan yoksun olabilir veya konuya ilgi duymayabilir, bu da öğrenme süreçlerini kontrol etme yeteneklerini engelleyebilir (Çakıcı, 2015).

Yansıtıcı günlük yazma, öğrencileri kendi öğrenme yolculukları için sorumluluk almaya teşvik ederek, üstbilişsel becerileri geliştirerek, yeteneklerinin farkındalığını artırarak iç gözlem ve öz değerlendirmeyi kolaylaştırarak yazma becerilerini geliştirmede ve öğrenen özerkliğini geliştirmede önemli bir rol oynar (Kim & Park, 2019). Bu süreç, yapay zekâ ile geliştirilmiş araçların entegrasyonu ile daha da geliştirilebilir. Yazma becerilerini ve yansıtıcı günlük tutma yoluyla öğrenen özerkliğini geliştirmede yapay zekâ destekli yansıtıcı araçların kullanılması, öğrenenler için kişiselleştirilmiş geri bildirim ve yardım, artan öğrenci katılımı ve motivasyonu ve üstbilişsel yeteneklerin geliştirilmesi gibi çeşitli fırsatlar sunar ve sonuçta öğrenenlerin kendilerini yazma yoluyla ifade etmelerine yardımcı olur (Zheng et al., 2023). Yansıtıcı günlük tutmayla ilgili başlıca zorluklardan biri, bazı öğrencilerin, özellikle kendilerini bu şekilde ifade etmeye alışkın değillerse, deneyimlerini ve düşüncelerini yazılı olarak yansıtmakta zorlanabilmeleridir; bu da yansıtıcı günlük yazmanın öğrenci özerkliğini ve kendi kendine düşünmeyi teşvik eden bir araç olarak etkinliğini sınırlayabilir. Ayrıca, öğrenciler düzenli olarak yazmak için zaman ve motivasyon bulmakta zorlanabilir, bu da düşüncelerinin kalitesini ve derinliğini etkileyebilir. Bir başka sorun ise öğrencilerin yansıtıcı yazıları hakkında yeterli geri bildirim veya rehberlik alamamalarıdır; bu da yazma becerilerini ve üstbilişsel yeteneklerini geliştirme yeteneklerini sınırlayabilir (Roesler, 2020).

Bu kaygılar göz önünde bulundurulduğunda mevcut çalışma, yapay zekâ destekli yansıtıcı günlükler aracılığıyla yazma becerilerinin geliştirilmesi için öğrenen özerkliğinin güçlendirilmesi konusunu ele almaktadır. Bu araştırma, öğrencilerin yazma becerilerini arttırmak ve öğrenme deneyimlerini zenginleştirmek amacıyla yapay zekâ teknolojisinin nasıl kullanılabileceğini incelemektedir. Bu çalışma aynı zamanda yapay zekâ destekli yansıtıcı günlüklerin öğrencilerin öğrenen özerkliğini teşvik etme potansiyelini vurgulamakta ve bu yöntemin yazma becerilerinin geliştirilmesine olan katkısını değerlendirmektedir. Araştırma sonuçları, eğitimcilerin ve öğrencilerin bu yenilikçi yaklaşımı kullanarak daha etkili bir öğrenme deneyimi elde etmelerine yardımcı olacak önemli bilgiler sunmayı amaçlamaktadır. Bu nedenle, bu çalışma geleneksel yansıtıcı günlüklerin ve yapay zekâ ile geliştirilmiş yansıtıcı günlüklerin kullanımının yabancı dil olarak İngilizce öğrenen öğrenciler arasında

yazma becerileri kapsamında öğrenen özerkliklerinin gelişimine olan katkısını araştırmayı amaçlamaktadır. Ek olarak çalışma yabancı dil olarak İngilizce öğrenen öğrenciler arasında yazma becerilerinde öğrenen özerkliğinin geliştirmesi açısından geleneksel ve yapay zekâ ile geliştirilmiş yansıtıcı günlüklerin kullanımı arasında bir farklılık olup olmadığını incelemeyi amaçlamaktadır.

Bu araştırmanın yöntemi, değişkenlerin birbirleriyle ilişkilendirilmesini gözlemleyebilmek için deneysel yöntem olarak seçilmiştir. Bu çalışmada deneysel araştırma, belirli ve kontrol altındaki prosedürlerin gruplar halindeki katılımcılara uygulandığında ortaya çıkan etkilerini incelemek için kullanılmıştır (Seliger & Shohamy, 1989). Çalışma 2023-2024 akademik yılı Bahar döneminde gerçekleştirilmiştir. Çalışmaya, İstanbul'da bulunan bir vakıf üniversitesinin Yabancı Diller Yüksekokulu İngilizce hazırlık programına kayıtlı 36 öğrenci katılmıştır. Başlangıçta, kontrol ve deney gruplarındaki katılımcılar daha önce oluşturulmuş iki şubeden rastgele seçilmiştir. İngilizce yeterlilikleri B1 düzeyinde olan katılımcıların 17'sini (%47,22) erkekler, 19'unu (%52,78) ise kadınlar oluşturmaktadır. Yaşları 18 ile 21 arasında değişen katılımcıların yaş ortalaması 18,83'tür. Katılımcıların 18'i Fizyoterapi ve Rehabilitasyon Bölümü'nden (%50), 16'sı Yazılım Mühendisliği'nden (%44,4) ve 2'si Endüstri Mühendisliği'nden (%5,6) oluşmaktadır. Ayrıca, gözlemlenen sonuçların altında yatan nedenleri araştırmak ve incelemek için bir odak grup çalışması gerçekleştirilmiştir. Her gruptan altı katılımcı, ayrı ayrı düzenlenen 30 dakikalık bir oturum için rastgele seçilmiştir. Katılımcıların yaşları 18 ila 20 arasında değişmekte olup yaş ortalaması 18,75'tir. Araştırma için veri toplamak amacıyla önce katılımcıların yaşları, cinsiyetleri, bölümleri ve İngilizce yeterlilik düzeyleri gibi verileri toplamak için bir demografik bilgi anketi ve sonrasında Orakcı ve Gelişli (2017) tarafından geliştirilen Öğrenen Özerkliği Ölçeği (LAS) kullanılmıştır (Bkz. Ek A). Her iki gruptaki katılımcılar ön testi tamamladıktan sonra, beş hafta boyunca paragraf yazmaya odaklanan çeşitli alıştırmaları tamamlamışlardır. Kontrol grubu her yazma aktivitesinden sonra geleneksel yansıtıcı günlükler tutarken, deney grubu ChatGPT adlı yapay zekâ sohbet robotu yazılımı aracılığıyla yapay zekâ destekli yansıtıcı günlükler yazmıştır. Sonunda, her iki grup da son testi tamamlamıştır. Ayrıca, bir odak grup görüşmesi gerçekleştirilmiş ve elde edilen veriler kapsamlı bir şekilde incelenmiştir. Katılımcıların yansıtıcı yazma ve özerk öğrenme hakkındaki

görüşlerini keşfetmeyi amaçlayan sekiz sorudan oluşan görüşme, her gruptan 6 katılımcı olmak üzere toplam 12 katılımcıyla yüz yüze gerçekleştirilmiş ve toplam 60 dakika sürmüştür. Her bir katılımcıdan alınan yanıtlar titizlikle kaydedilmiş ve daha sonra araştırmacı tarafından analiz edilerek görüşlerin kapsamlı bir şekilde incelenmesi ve kontrol ve deney grupları arasındaki farkların belirlenmesi amaçlanmıştır.

Çalışmada, toplanan ve analiz edilen verilerin bulgulara göre çalışmaya katılan öğrencilerin hem uygulamadan önce hem de sonra belirli bir düzeyde yazma özerkliği sergiledikleri ve katılımcıların uygulamadan sonra sadece küçük bir artış yaşadıkları görülmektedir. Bu durum, kullanılan günlük tutma yönteminden bağımsız olarak öğrenen özerklik seviyelerindeki artışın benzer olduğunu göstermektedir. Ek olarak, geleneksel yansıtıcı günlük tutmanın, öğrencilerin yazma becerilerindeki özerkliklerini önemli ölçüde etkilemediği gözlemlenmiştir. Bu tür günlüklerin, öğrencilerin İngilizce öğrenmelerine yardımcı olacak en uygun etkinliği seçme tercihlerinde olumlu bir değişimle birlikte, öğrencilerin özerkliklerinde yalnızca küçük bir artışa yol açtığı görülmüştür. Bu durum, geleneksel yansıtıcı günlüklerin, öğrencilerin öğrenme ihtiyaçlarına en uygun etkinlikleri seçme konusunda karar verme özerkliğini arttırabildiğini göstermektedir. Ancak, geleneksel yansıtıcı günlüklerin öğrenen özerkliğinin diğer yönleri üzerinde sınırlı bir etkisi olduğu görülmüştür. Benzer şekilde, katılımcı öğrencilere yazma öğretiminde yapay zekâ ile geliştirilmiş yansıtıcı günlüklerin uygulanması, yazma motivasyonlarında gözlemlenen kısmi gelişmelerle birlikte özerk öğrenme davranışlarını önemli derecede etkilemediği gözlemlenmiştir. Bununla birlikte, öğrencilerin kendilerini değerlendirme becerileri gözle görülür bir değişim göstermiştir; bu da yapay zekâ ile geliştirilmiş günlüklerin öğrencilerin yazılarını bağımsız olarak değerlendirme becerilerine katkıda bulunmuş olabileceğini göstermektedir. Öz değerlendirme becerilerindeki gelişme, yapay zekâ tarafından sağlanan yapılandırılmış geri bildirimle bağlanabilir; bu da öğrencilerin yazılarındaki belirli güçlü ve zayıf yönleri geleneksel günlüklerden daha net bir şekilde belirlemelerine yardımcı olabilir. Buna ek olarak, yapay zekâ ile geliştirilmiş günlükleri kullanan öğrenciler arasında, doğrudan öğretmen açıklaması olmadan bile İngilizceyi bağımsız olarak anlama ve öğrenme becerilerine ilişkin güvende önemli bir artış vardır. Bu durumun, muhtemelen yapay zekânın öğrencileri anladıkları konusunda rahatlatan ve onları dilsel zorlukların üstesinden bağımsız olarak

gelmeye teşvik eden anında geri bildirim mekanizması ile geliştirilmiş günlük tutma sürecinin yansıtıcı doğası ile ilgili olabileceği düşünülmüştür. Son olarak, geleneksel yansıtıcı günlüklerle karşılaştırıldığında, yapay zekâ ile geliştirilmiş yansıtıcı günlüklerin, öğrencilerin öğrenme sürecinde kendilerine danışılmasını tercih etmeleri üzerinde daha olumlu bir etkisi olduğu görülmüştür. Bu tür günlükler ayrıca öğrencilerin zayıf yönlerini daha etkili bir şekilde belirlemelerine ve güçlü yönlerini fark etmelerine daha iyi yardımcı olmaktadır. Özetle, yazma becerisini geliştirmek için yapay zekâ destekli yansıtıcı günlüklerin benimsenmesi bazı avantajlar sunsa da, öğrenen özerkliğinin tüm seviyelerini belirgin bir şekilde yükseltmediği gözlemlenmiştir.

Bu çalışmanın bulgularına dayanarak, öğrencilere, öğretmenlere ve müfredat geliştirenlere belirli öneriler sunulabilir. Öncelikle, öğrenciler yapay zekâ aracı destekli kaynaklardan geri bildirim aldıktan sonra neleri iyi yaptıklarını ve hangi alanlarda daha iyi yapabileceklerini düşünmek için zaman ayırmalıdır. Bu eylemi çok önemli kılan şey, bu yeni becerilerin tam olarak entegre edilmesini sağlarken aynı zamanda gerekli değişiklikleri yapmaya teşvik etmesi ve yapay zekâ yazma araçlarının sürekli olarak kullanılmasının, yazar olarak yeteneklerin gelişmesine yardımcı olmasıdır. Kişilerin düzenli kullanımları, geri bildirimleri aşamalı olarak dahil etmelerine, yazma tekniklerini geliştirmelerine ve etkili İngilizce iletişim kapasitelerine ilişkin özgüvenlerini artırmalarına yardımcı olacaktır. Yapay zekâ araçlarını kullanmak, öğrencilerin hedeflerini daha hassas bir şekilde takip etmelerini ve bu hedefler hakkında bireyselleştirilmiş geri bildirim almalarını sağlayarak hedeflenen yazma becerilerini geliştirmenin yanı sıra bağımsızlığı da besler. Buna ek olarak, öğretmenler, bu araçları okulda daha etkili hale getirmek için kendilerine anında, özel yanıtlar veren yapay zekâ araçlarından yararlanmalıdır. Bunu yaparak, öğrencilerin motivasyonunu ve kendi benzersiz öğrenme stillerine ve tercihlerine katılımını artırma ve böylece öğrenciler arasında bağımsızlığı teşvik etme sağlanabilir. Öğretmenler, öğretimlerinde yapay zekâ odaklı eleştirel yazma ve hibrit yöntemler gibi geleneksel yöntemlerin bir karışımını kullanmak için motive edilmelidir. Öğretmenlerin yapay zekâ teknolojisini eleştirel yazma uygulamalarıyla birleştirmesi, öğrencilerin eskisinden daha düzenli ve kişiselleştirilmiş geri bildirimler almasını sağlayarak onları daha iyi anlamaya ve dolayısıyla daha bağımsız öğrenenler haline getirecektir. Mesleki gelişim açısından, öğretmenlerin öğretim yöntemlerinde yapay zekâ araçlarından yararlanma becerilerini

geliştirebilmeleri için yapay zekâ araçlarının yetkin entegrasyonu konusunda sürekli eğitim almaları gerekmektedir. Yapay zekâ teknolojilerinin pratik kısımları, onlarla müfredat entegrasyonu için yollar ve öğrencilerin eğitimi üzerindeki etkilerini kontrol etme ve bunlara erişme yöntemleri eğitim kapsamına alınmalıdır. Müfredat geliştirmeye gelindiğinde, yapay zekâ bileşenleri istenen öğrenme hedeflerine uyacak şekilde uyarlanmalıdır. Bu, örneğin, bir müfredatın amacının eleştirel yazma becerilerini geliştirmek olduğu durumlarda, yapay zekânın öğrencilerin metin oluştururken eleştirel düşünmelerini sağlayacak yorumlar sunması gerektiği anlamına gelir ve bu sebeple yapay zekâ sisteminin özellikleri belirli eğitim hedefleriyle uyumlu hale getirilmelidir. Öğrencilerin eğitim ve kültürel geçmişleri, yapay zekâ araçlarını entegre eden bir müfredat geliştirirken dikkate alınması gereken önemli hususlardır. Yapay zekâ öğretim kaynakları, yeterince hassas olunması durumunda öğrenciler için daha kişiselleştirilmiş, verimli ve yararlı olabilir, böylece bir sınıf ortamında özerkliklerini artırmada daha iyi hale getirilebilir. Belirli gruplardan öğrencilerin neye ihtiyaç duyduğunu ve yapay zekâ çözümlerinin onlara daha iyi uyacak şekilde nasıl yapılabileceğini anlamadan bu hedeflere ulaşmak imkansızdır. Son olarak, yetkili kişiler, öğretmenlere teknik destek sağlamanın yanı sıra öğretimde yapay zekânın verimli kullanımı için destek sistemleri oluşturmalarıdır. Bu, eğitim kursları düzenlemelerini ve hem öğretmenlerin hem de öğrencilerin etkili yapay zekâ aracı uygulaması için yeterli kaynağa sahip olmalarını garanti etmelerini gerektirir. Ayrıca, kurumların çeşitli eğitim ortamlarına göre özelleştirilebilen yapay zekâ tabanlı araçları entegre etmede uyarlanabilir stratejiler kullandıklarından emin olmaları gerekmektedir.

Anahtar Kelimeler: Yabancı dil olarak İngilizce, Öğrenen özerkliği, Yansıtıcı günlük, Yapay zekâ

ABSTRACT

Empowering Learner Autonomy for Developing Writing Skills Through AI-Enhanced Reflective Journals

Könez, Sena

Master's Thesis, Department of Foreign Language Education

Supervisor: Prof. Dr. Selami Aydın

June 2024

Writing is an essential component of English language teaching and learning and contributes language proficiency (Mandal, 2009; Marlina & Giri, 2014). Promoting student autonomy in the development of writing skills is of great importance as it increases their self-discipline and responsibility, reduces the constraints of teacher-centered learning, and increases motivation and self-confidence (Lighbown & Spada, 2013). Reflective journal writing has a major role for students to become autonomous learners while fostering their writing skills as it increases the awareness of their abilities and promotes self-evaluation (Kim & Park, 2019). This study aims to investigate the impact of using traditional versus reflective journals enhanced with artificial intelligence (AI) in terms of developing learner autonomy in writing skills among EFL learners. Following a quasi-experimental design, the data collection involved 36 college students studying in the English preparatory program. A demographic information questionnaire and the Learner Autonomy Scale developed by Orakcı and Gelişli (2017) were used to collect data for the research. While the control group kept traditional reflective journals after each writing task, the experimental group wrote AI-assisted reflective journals using an AI chatbot software for five weeks. The findings revealed that traditional reflective journaling had a small impact on students' autonomy whereas the implementation of AI-enhanced reflective journals showed a noticeable change in students' self-evaluation skills. Thus, it is recommended that AI teaching resources can be used for more personalized instruction for students to make them better able to increase their autonomy in a classroom setting.

Keywords: English as a foreign language, Learner autonomy, Reflective journal, Artificial intelligence

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LIST OF ABBREVIATIONS

EFL	: English as a Foreign Language
AI	: Artificial Intelligence
L2	: Second Language
CEFR	: The Common European Framework of Reference for Languages
LAS	: Learner Autonomy Scale
SPSS	: Statistical Package for the Social Sciences

1. INTRODUCTION

This section outlines the grounds for the study covering the study's background, problem statement, aims and significance, and research questions. It starts by introducing the significance of writing, learner autonomy in addition to using reflective journals and AI-supported reflective tools. Then, it addresses issues related to EFL writing and learner autonomy. Finally, it presents the study's aim, significance, and research questions.

1.1. Background of the Study

Writing has an essential place in EFL teaching and learning since it serves as a versatile and indispensable tool, crucial for facilitating global communication (Mandal, 2009; Marlina & Giri, 2014), conveying diverse messages (Celce-Murcia, 2001), and supporting various objectives, including professional, academic, and social contexts (Cook, 2014; Scrivener, 2011) all of which make it a vital component of language learning with numerous roles in learners' future achievement (Kellogg, 2008). More specifically, it promotes the grammatical foundation of the language since EFL writing requires the proficient usage of grammar structures and the successful application of syntactical rules (Çelik & Aydın, 2021). Moreover, it improves learners' vocabulary knowledge as learners engage in cognitive activities and continuously manipulate words, phrases, and expressions they have once encountered in use (Bello, 1997). Finally, improving writing skills is correlated with overall language development (Hyland, 2003) since it supports the development of other skills like listening, speaking, and reading (Javed et al., 2013). Byrnes and Manchón (2014) suggest that the problem-solving quality of writing and its

emphasis on language usage and analysis by learners make it an effective tool for enhancing language proficiency. Regarding the aforementioned significance of writing in the EFL context, fostering learner autonomy emerges as a considerable way to improve learners' competence in writing.

Learner autonomy plays a significant role in developing writing skills for several reasons. First, it enables learners to be in charge of what and how they learn, which can result in a more concentrated and meaningful experience (Little, 1991) because it allows learners to establish self-confidence and self-assurance, as it empowers them to assume responsibility for their learning experience (Littlewood, 1996). Second, it reduces the restrictions related to the connection between learning and everyday life, as observed in conventional teacher-centric learning environments (Littlewood, 1997) since it enables learners to build personalized learning strategies they can adapt to align with their specific requirements and interests (Dam, 1995). Last, it can boost learners' motivation and eagerness for learning by allowing them to make decisions about their language proficiency (Littlejohn, 1985) as notably developing abilities such as self-discipline and responsibility can enhance their efficacy as productive learners when writing, promoting a more positive orientation regarding the learning process and a greater awareness of success (Lightbown & Spada, 2013). In other words, developing learner autonomy allows learners to enhance their efficacy and self-reliance, which is an essential ability in today's world. An essential tool in the goal of learner autonomy, reflective journals serve as a bridge between theoretical and practical skill development in EFL writing.

Reflective journal writing is crucial for fostering learner autonomy. For instance, keeping a reflective journal provides the chance to grow learner autonomy by encouraging learners to take charge of their learning paths on their own authority (Çakıcı, 2015). It is a useful tool that aids learners in engaging in reflective thinking as they assess their thoughts, activities and experiences (Kim & Park, 2019). This practice has also been found to promote metacognitive skills which are known as cognitive processes deeply rooted in what concerns self-consciousness such as identifying one's learning requirements, planning ahead, checking on progress and evaluating whether the way they study is effective (Sudirman et al., 2021). This instrument makes it possible for learners to identify their strengths and weaknesses among various other things they do like writing and make necessary amendments accordingly including developing their writing skills. Lastly, keeping reflective journals among EFL learners may help improve their writing skills through enhancing their awareness (Boud, 2001) such as their ability to effectively use cohesive devices, generic meanings, coherence, and textual setting (Alfalagg, 2020). Having reflected on their writing process themselves; this means that scholars can point out areas that require improvement which would lead to better writing ability (Sudirman et al., 2021). Overall, this practice facilitates the development of new perspectives and insight within the context of EFL writing. Extending upon the conventional method of keeping reflective journals, the integration of AI-enhanced tools may optimize the entire process and introduce new opportunities for personalized learning and development in EFL writing and learner autonomy.

The use of AI-supported reflective tools in developing EFL writing skills may provide a wide variety of opportunities that could help learners and instructors in several ways. First, there is capability of these mechanisms to present instant feedback as well as individual help on how certain words or phrases should be used in a sentence correctly hence they are helpful in developing students' writing skills in the way that suits their particularities and own talents more than anyone (Okonkwo, 2011). Second, they can increase student participation throughout their time in class by providing an all inclusive and dynamic writing platform (Sharma & Sharma, 2022). This can retain English learners' interest and boost their motivation for writing. Lastly, using EFL AI reflective tools supports language acquisition through engaging repetitive patterns (Fryer et al., 2019) which can foster language development among students by offering them different types of writing exercises (Baskara, 2023). Regarding the roles of AI-enhanced reflective tools in learner autonomy, they first and foremost provide immediate, individualized feedback which helps them know their strengths and weaknesses with regard to language learning thus making it possible for them to direct their own learning efforts. Second, they create opportunities for private and non-threatening improvements in communication skills by students themselves through self-expression in writing because this way each student can have as many attempts as he or she wants without fear of being embarrassed or any other negative consequences (Agustini, 2023). As an encouraging and immersive resource for EFL writing, these reflective tools' natural speech characteristics can be quite useful (Zheng et al., 2019). Last but not least, such tools engage learners into interactive tutorials that are tailor-made and provide immediate comments in order to drive one's progress in

acquiring language skills (Chatib et al., 2021). When it comes to AI-assisted tools used in reflective journal writing, there are potential opportunities for application. First, they allow for personalized feedback and support, thus increasing student motivation in learning, engagement with the material studied and learner autonomy respectively (Pardo et al., 2019). Such tools' ability to create text similar to human speech makes them an effective means of giving individualized feedback and support to EFL learners (Zheng et al., 2019). Second, these tools can help learners examine their own learning experiences, identify areas for improvement and develop their metacognitive abilities. This consequently promotes self-regulated learning on the part of students themselves as well as fostering improved writing skills as reflected through better essays among others. Last, AI-supported reflecting tools assist learners in effectively organizing their thoughts and ideas, hence facilitating the process of expressing themselves through writing (Mukhallafi, 2020).

1.2. Statement of the Problem

Writing is regarded as particularly demanding (Boscolo & Gelati, 2007), and numerous factors contribute to the difficulties experienced by not only EFL learners but also teachers. First and foremost, according to Brown and Yule (1983), writing requires a more complicated and advanced language compared to other skills due to varied types of clauses and syntactic devices, specialized vocabulary, and the increased usage of various complex verbs and tenses (Richards, 1990). As a result, a thorough comprehension of grammar and vocabulary is needed for proficient writing (Nunan, 2000). Even though learners study

grammar and vocabulary in EFL lessons, many of them may still struggle with writing (Mustaque, 2014). The reason for that can be the reliance on in-class exercises predominantly centered around textbooks that primarily emphasize grammar and vocabulary yet often lack relevant and useful ways for learners to engage in writing (Grabe & Kaplan, 1996). Considering the use of proper rules and structure cannot ensure that writing is organized and comprehensible, another aspect that poses an obstacle for learners is the complexity of the composition phase. According to Nunan (2000), good writing requires the correct use of abilities such as topic management, design, sentence construction, lexical devices, punctuation, spelling, and capitalization. This process also necessitates a significant amount of time, as learners must transform their thoughts into coherent sentences and paragraphs, as well as rewriting and refining these pieces to ensure they are well-organized and cohesive. Throughout this process, learners engage in a variety of meta-cognitive procedures, including brainstorming, designing, defining, structuring, drafting, and editing (Aygün & Aydın, 2016). Given that each of the above-mentioned strategies calls for distinct abilities, some learners may not be able to effectively use them all. Another challenge learners may face is the language barrier, namely their interlanguage. For example, problems may arise from the tendency to overgeneralize or rely on inferences from one's native language which poses difficulties for learners in achieving proficiency in writing (Ahmed & Ahasan, 2015). They may also view it as overwhelming and consequently refrain from engaging in writing tasks due to the high burden of the workload. Along with other aspects, psychological variables including self-efficacy, anxiety, and motivation can also significantly affect writing (Javadi-Safa, 2018). Similarly, the absence of learner awareness and interest can

play a major part in developing writing proficiency (Mohamed & Zouaoui, 2014) as they often complain about not having something noteworthy or appealing to write in their minds.

Aside from the aforementioned factors, there are other issues that make writing in a Turkish EFL context challenging. This is due in large part to the fact that exams play an important role in the Turkish EFL context. For instance, the assessment primarily focuses on grammar and reading skills, neglecting the evaluation of learners' writing abilities, which consequently results in a lack of emphasis on writing teaching. Due to this rationale, learners may lack proficiency in effectively using various structures inside their written compositions while sticking to a prescribed pattern. In addition, it is commonly observed that writing instruction in higher education is constrained by factors such as the characteristics of teachers, instructional approaches, and available resources, resulting in a detrimental impact on the development of writing abilities (Aydin, 2010). Hence, although the extensive amount of instruction, learners may have difficulties in achieving proficiency in written expression, leading to a sense of inadequacy and inefficiency in their writing abilities. In conclusion, writing involves a substantial amount of time, exercise, and commitment to produce a meaningful output by correctly using linguistic elements and developing opinions or content, and afterwards arranging them in an organized way within cohesive sections with regard to a specific genre and objective. As a result, EFL learners may experience a variety of difficulties regarding writing due to a lack of required linguistic skills, metacognitive strategies, or affective factors.

Learner autonomy can address the aforementioned challenges related to EFL writing in multiple ways. First, when learners actively engage in what they learn, they can be far more inclined to define objectives, assess their progress, and make their own decisions, which can result in more concentrated and target-oriented writing (Little, 1991) in contrast to being passive learners in lessons which can be regarded as problematic for improving a productive skill like writing. Second, learners may experience challenges due to traditional teacher-centered learning environments; however, they can minimize these limitations imposed by conventional teacher-centered educational frameworks, reducing the barriers between learning and real-life application by taking responsibility for their learning process (Littlewood, 1997). Finally, developing learner autonomy can facilitate the building of a sense of ownership and responsibility in learners regarding their writing (Little, 1991) which can be demanding for some learners as they have to manage and review their learning progress. As a result, this can lead to a more positive attitude towards writing, with a greater sense of success and satisfaction. To sum up, fostering learner autonomy can help learners overcome the challenges of EFL writing such as limited writing instruction, lack of knowledge, and difficulty in developing various linguistic, cognitive, and affective competencies.

While developing learner autonomy can help learners improve their writing skills, there are several potential issues to be addressed. To begin with, autonomous learners need to be capable of independently making and carrying out decisions that direct their actions. According to Joshi (2011), the extent of this capability depends upon two primary determinants, ability and willingness. Thus, learners may experience challenges when

they lack the ability to make decisions independently, moreover, their autonomy is unlikely to develop without the desire of learners to take responsibility for their education (Borg & Al-Busaidi, 2012). Similarly, the absence of motivation and interest is another factor that hinders the development of learner autonomy, according to Yildiz and Yucedal (2020) considering developing learner autonomy relies on the presence of motivation in learners and without motivation, and learners are likely to experience failure in their efforts to become autonomous. Another key issue is that some learners may lack the abilities or knowledge to manage their learning, which may restrict their capacity to set objectives, keep track of their progress, and make choices regarding their learning. According to Wenden (1991), learners need to have a sense of confidence and trust in their learning abilities, as well as the capacity to effectively track their learning progress. Given that, students may not have the confidence to engage in more active learning, which can result in a passive and dependent learning style. They may also lack the opportunity to successfully use these skills or they may not have access to the necessary resources for learning such skills (Le & Nguyen, 2022) hence requiring additional support and guidance from instructors. Furthermore, learners may experience anxiety when it comes to seeking guidance from their teachers, as they may perceive a lack of opportunity to engage in conversations regarding their autonomous learning. This illustrates the challenges of teacher-student interactions. For example, autonomy can hardly be developed by students in conventional learning settings. Learners in such classrooms experience constraints in their efforts towards attaining self-learning skills (Yildiz & Yucedal, 2020). Offering students excessive assistance may undermine their ability to be self-directed learners. This

is primarily attributed to teachers lacking the necessary training or being hesitant to gradually reduce students' reliance on them (Sheerin, 1997). According to Little (1991), the transition for instructors from being providers of knowledge to taking the roles of counselors and managers of learning resources is challenging. Additionally, teachers may find it difficult to allow learners to independently address problems since all instructors have expertise in learner autonomy theory and practice, limiting their capacity to help students as they seek to develop this ability. Furthermore, pursuant to rigid curricula, inadequate teacher preparation, extensive use of standardized tests and restrictive classroom rules among others may make learners extremely difficult to exercise their autonomy. Moreover, learners may also lack self-confidence when it comes to taking charge of their own studies away from school settings. When students are used to be passive waiters for their tutors so as they could tell them what to do even when studying on their own; thus, they may find themselves in situations where they cannot start their learning (Le & Nguyen, 2022). In essence, the major problems that EFL students face in their quest for independence from their teachers as peers are poor self-regulated learning skills, horror towards consulting instructors, and indecisiveness regarding making autonomous decisions concerning their studies.

Reflective journals can serve as an effective tool for addressing various challenges related to learner autonomy, as previously discussed. First, reflective journals have been shown to be pivotal in fostering self-guidance among students through promotion of self-regulation and metacognitive abilities (Gibson et al., 2016) because they address such issues faced by them as inability to set goals, failure to monitor progress and indecision

in learning process making. Second, making regular entries into diaries would instill feelings of accountability even among off-campus learners since they can check how far they have moved on if they need some changes (Black et al., 2019), hence becoming more active and autonomous. Third, the use of reflective journals can facilitate the development of learners' confidence in getting help from their instructors, as these journals provide an individual medium for them to share their issues, questions, and difficulties which in turn can be helpful for learners who hesitate initiating discussions related to their independent learning (Kerka, 2002). Fourth, reflective journals serve as tools that enhance boosting motivation since engaging into writing about past experiences, things achieved aims that were not reached frustrate them or just tell about difficulties faced makes one understand what really push learning motivation (Sudirman et al., 2021), thus they can uncover underlying factors that drive their learning motivation through this introspection process. Consequently using reflective journals within an EFL setting can help address the problems encountered in encouraging autonomy by promoting self-regulation, developing responsibility, and enhancing motivation, as well as bridging the gap between teachers and students.

While reflective journals contribute to learner autonomy in the EFL writing context, several potential problems need to be clarified. The first problem is that some students would argue that they cannot write extensively on reflections due to their lack of practice in this area. On the other hand, even if certain students can summarize and explain various issues effectively; some are unable to gauge how well they have learnt something (Kember et al., 1999). According to Varner and Peck (2003), learners find it difficult keeping their

reflective journaling activities because they lack ideas or motivation for such activities (Tahmasbi et al., 2022). Another obstacle that may hinder learners from keeping their reflective journals is the assumption that it is a routine exercise that has lost relevance through time. Learners may see engaging in reflective journaling as an arduous task no longer applicable within the context of EFL instruction (Dyment & O'Connell, 2011). In addition, a misconception of what reflective journals are also results in uninterest towards reflective writing by students (Thorpe, 2004). Learners might not know how to show what they have learned through reflection writing, because they could have been inadequately trained during their earlier years (Fisher, 2003). Moreover, standardized tests which are different from reflective aspects of writing process can also keep students away from this kind of writing (Dyment & O'Connell, 2011). Yet another barrier emerges with regard to how learners structurally design their reflective journals. The structure of reflective journals might negatively affect their concerns, for example recurring writing instructions might curb their reflection's extent and quality (Hobbs, 2007). Last, learners may assume that reflective journals require much work time. Perhaps some of the reasons why learners take long to write their reflective journals is because they do not like them and think they are lengthy tasks (Otienoh, 2009).

Considering the aforementioned problems, AI-enhanced reflective journals may provide possible effective solutions to them. To begin with, such kind of reflective journaling could assist in minimizing problems associated with limited knowledge of reflective writing among learners as it provides directions and leads which make it easier for them to be reflective (Okonkwo, 2011). They may provide learners with insights and

examples which would help them in expressing themselves adequately. In addition, the journals would serve different learning styles as well as providing individualized assistance to each learner depending on their own requirements making it more accessible to many students (Zheng et al., 2019). They are helpful for those learners who might face difficulties in appraising what they have learned from their previous experience since this type of journaling can enable an even more profound kind of self-evaluation process enabling further development of a learner's ability to be involved in self-reflection (An et al., 2023). Using artificial intelligence in reflective writing can effectively address the challenges related to motivation and interest since they may improve learner engagement and satisfaction during the process (Pardo et al., 2019). Thus, learners can feel more engaged in reflective writing and see the process as less monotonous and more fulfilling, leading to increased motivation and interest. Furthermore, an alteration in learners' perception of reflective journals can be achieved by AI-enhanced reflective journals as existing reflective journals are often seen as outdated and monotonous because they propose modern technology-based means for thinking over that tally with contemporary AI-enhanced reflections across various contexts may renew the so-called value of reflective writing in the learning environment as well as today's digital leaning orientations (Baskara, 2023). AI-enhanced reflective journals can help students who struggle with organizing their writing since they provide helpful tips that assist learners in making a plan for their narrative but still retaining their autonomy to express their views (Mukhallafi, 2020). They indicate students' writing within its range and structure. Finally, AI-enhanced reflective journals can speed up the time-consuming aspect of the task by

helping out students to focus on a efficient form of reflection so as to concentrate on their main ideas and find out those that require further development (Agustini, 2023). This way saves time as well as improves the quality of reflections by letting learners think about worthwhile conclusions rather than repetitive and narrow activities. In summary, the use of AI-enhanced reflective journals can increase the accessibility, engagement, and efficacy of reflective writing, hence minimizing several challenges commonly encountered in the practice of reflective journaling in EFL writing contexts.

1.3. Aims of the Study

As clarified above, writing is a multifaceted and essential component of EFL teaching and learning, contributing to global communication, grammatical foundation, vocabulary development, and overall language proficiency. Fostering learner autonomy in writing skills development is crucial as it empowers learners to take charge of their learning, enhances their self-discipline and responsibility, reduces restrictions related to teacher-focused learning, and boosts motivation and self-confidence, which are complemented by the use of reflective journals as a practical tool. Writing in a reflective journal can help in enhancing writing skills and promoting learner autonomy through prompting students to view themselves as working towards an end by taking action, nurturing self-awareness and monitoring their own thinking while evaluating themselves based on their capabilities. AI-integrated tools can derive additional benefits from this process. Various opportunities that arise for students to employ an AI-supported reflection system in developing their EFL writing skills when they keep reflective journals are numerous, including personalized feedback and help, enhanced learner involvement and motivation as well as

metacognitive competences building which ultimately assist them in expressing themselves through writing. Therefore, with regard to writing proficiency among EFL students, fostering learner independence and practice of keeping reflective journals which are essentially associated with language proficiency, involving oneself in hindsight practices have been considered serious challenges facing educators. With these concerns in mind, the current study aims to examine how AI technology can be used to improve writing skills and enrich the learning experiences of EFL learners. It also highlights the potential of AI-supported reflective journals to promote learner autonomy and evaluates the contribution of this method to the development of reflective writing.

1.4. Significance of the Study

The current study is considered significant for several reasons. First, it addresses the importance of learner autonomy for EFL writing skills, given that EFL learners often struggle with developing learner autonomy (Le & Nguyen, 2022). Second, it contributes to the relevant literature by presenting information on the effects of AI in reflective writing. This is crucial because, with the recent developments in AI technologies and especially with the popularity of using them to improve productive skills, there has been an increased demand for AI applications in EFL education. Since the integration of AI applications such as ChatGPT can be viewed as an innovative concept, there has been relatively limited research on these applications. Numerous studies in the literature have been conducted to explore the effects of AI applications in EFL education that are related to writing (Wang, 2020; Sumakul et al., 2022; Zhao, 2022; Godwin-Jones, 2022; Hwang et al., 2023), learner autonomy (Lee, 2019; Rochma & Triyono, 2019; Epp, 2020; Liu et

al., 2023), learner perceptions (Lutskovskaia et al., 2019; Zou et al., 2020; Zhu, 2020; Chen et al., 2021), and achievement (Ali, 2020; Nong et al., 2021; Deng, 2022; Yang & Kyun, 2022). Whereas most of the earlier studies either focused on improving writing skills or on strategies for developing learner autonomy, there has been a noticeable gap in the use of AI applications in writing practice concerning promoting learner autonomy through reflective journaling. In addition, it is worth noting that no such research has been conducted within the Turkish EFL context. Consequently, the current research contributes to the relevant literature as it investigates the effects of AI-enhanced reflective journals on EFL writing and learner autonomy in a foundation university in Türkiye. Last, this research aims to bring a new dimension to traditional methods in education and presents practical recommendations to instructors, researchers, curriculum planners, and material developers.

1.5. Research Questions

Considering the aforementioned problems related to EFL writing, learner autonomy, and reflective journaling and the related issues such as limited research on the effects of AI applications, it is necessary to investigate whether the use of AI can influence EFL learners' writing, learner autonomy, and reflective journaling. Therefore, this study aims to answer the following research questions:

1. Does the use of traditional reflective journals contribute to developing learner autonomy in writing skills among EFL learners?

2. Does the use of AI-enhanced reflective journals contribute to developing learner autonomy in writing skills among EFL learners?
3. Is there a difference between the use of traditional and AI-enhanced reflective journals regarding developing learner autonomy in writing skills among EFL learners?

2. RELATED LITERATURE

This chapter consists of two subsections. The first subsection includes extensive background knowledge of the theoretical framework of aspects such as writing, learner autonomy, reflective journals, and AI in the context of language learning. The second subsection provides research results through a review of the relevant literature on learner autonomy in EFL writing, the use of AI, and the implementation of AI-enhanced reflective journals on learner autonomy in EFL writing.

2.1. Theoretical Background

This section outlines a thorough theoretical framework for the current study. First, different definitions, major approaches, and theories related to writing are introduced. Next, the descriptions and types of learner autonomy are elaborated. After that, reflective journals and their role in improving language skills are explained. Finally, the theoretical framework for AI in the EFL context is presented.

2.1.1. Writing

Language skills can be categorized into two main skills: *receptive* and *productive skills* (Harmer, 2007). Receptive skills include listening and reading, while productive skills involve speaking and writing. Writing is considered a fundamental component of language learning, as it serves as a means of communication. Being proficient in writing is often regarded as the final language skill to be developed by EFL learners (Hamp-Lyons & Heasley, 2006). Under this perspective, writing has been the subject of numerous

suggested definitions. According to (Zamel, 1982), writing can be defined as a cognitive activity that involves the creation of meaning. It is a cognitive process in which learners self-reflect and explore various interpretations to convey their intended meanings. This process involves creating, organizing, and modifying concepts, as well as a dedication to the task which requires an awareness of the intended reader and being open to revising and modifying their work as necessary throughout the writing process (Zamel, 1987). According to Nunan (1989), writing is a highly complicated cognitive activity that necessitates one's ability to effectively manage multiple factors at the same time. It can also be defined as a process-driven, targeted, and problem-solving activity that entails the writer's conscious engagement with the creating process and the potential for involvement of an instructor or fellow learner whenever necessary (Dyson & Freedman, 1991). Susser (1994) provides another definition of writing as a cognitive process that is recurrent and not linear. This process involves the writer engaging in pre-writing activities to generate ideas, followed by the act of writing itself. Subsequently, the writer reviews and modifies their work, repeating these steps until they get a satisfactory outcome. According to Flower (1994), writing is considered an act of being social and communicating. It involves effectively arranging information, fostering fluency, using vocabulary, using more complicated structures, reaching complexity in terms of style, and critically considering the intended objective and target audience (Grabe & Kaplan, 1996). According to Cumming (1998), the term "writing" covers more than only written text but also includes the cognitive processes of thinking, producing, and transcribing language into written form. It is a multifaceted activity involving the complementary engagement of physical

and cognitive capacities (Sokolik, 2003). Writing instruction has been shaped by several different approaches, the most prominent of which are referred to as the form-focused approach, the product-based approach, the process-based approach, the genre-based approach, and the reader-dominated approach.

The form-focused approach to writing involves providing precise instructions and activities centered on meaning. When following this approach for writing instruction, instructors direct learners by highlighting predetermined structures, potential errors, and certain sentence types. What is expected from learners is that they produce minimally through the process of replicating or modifying a given text in terms of grammar. Prioritizing grammatical and syntactic accuracy is required. Related tasks involve language drills such as fill-in-blanks, replacement, conversions, and completion exercises (Raimes, 1991). Accordingly, providing learners with regulated tasks can help minimize mistakes by minimizing their use of language. Grammar-based and discourse-structure-based instruction are the two kinds of the form-focused approach (Özdemir, 2015). The former involves basic drilling and practical exercises whereas the latter entails composing essay tasks, such as paragraph completion and selecting the appropriate transitioning. *The product-based approach* to writing is traditional, which centers on the instructor's role and highlights the significance of the final written work instead of the composing process (Harmer, 2015). According to Steele (1992), the product approach model consists of four phases. During the initial phase, learners review model texts, with a particular emphasis on identifying and analyzing the distinctive characteristics. In this case, while examining a formal letter, learners can be directed to consider the significance

of paragraph structure and the choice of language to convey formal requirements. During the subsequent phase, learners participate in monitored tasks that focus on the emphasized elements, typically in an isolated manner. For instance, when analyzing a formal letter, students can be instructed to engage in exercises aimed at employing formal language to express requests. During the third phase, which is considered to be of utmost significance, learners engage in the process of organizing their ideas. The prioritization of the organization of concepts holds greater significance than the concepts themselves and is equally as crucial as linguistic competence. In the fourth phase, learners ultimately generate a conclusive end product. Therefore, writing follows a straightforward and linear procedure highlighted in this approach (Hasan & Akhand, 2010). *The process-based approach* to writing emphasizes the writing process and fosters learners' creativity and proficiency in effectively communicating ideas. This approach entails dividing the writing procedure into different stages, namely generating ideas, structuring, drafting, focusing, evaluating, and reviewing (White & Arndt, 1991). It highlights the significance of engaging in peer-review activities and assessments. The recursive aspect of composition is often associated with the process-based approach rather than the linear nature of writing like in the product-based approach (Raimes, 1985). The primary objectives of learning are not limited to the mere acquisition of the right expressions and forms but also encompass the learners' success, development, and capacity to convey creative ideas (Zamel, 1982). This approach also encourages learners to perceive writing as a cognitive process through which they explore and revise their ideas while delivering their intended message (Zamel, 1983). Furthermore, they are asked to actively participate in cognitive activities such as

organizing, composing, generating ideas, engaging in peer assessment, critically assessing, and making revisions (Kroll, 2001). This approach is distinguished by its emphasis on generating meaningful content rather than prioritizing the end product of composition. *The genre-based approach* is distinguished by its emphasis on the sociocultural environment in which language is employed (Hasan & Akhand, 2010). Therefore, it is suggested that one ought to analyze these properties in samples of genre texts to fully understand them as well as practice relevant aspects. According to Hyland (2003), this means providing explanations which make sense about how language operates socially for learners through genres trying to be specific rather than vague. It enables students to have standards and attitudes of various genres as well as understand the subject matter, contextual factors, target readers (Harmer, 2015). Learners can enhance the effectiveness and appropriateness of their writing by acquiring a grasp of the principles controlling the organization of texts, including the reasons behind these organizational choices, which enables them to use language and genre patterns with precision and accuracy (Reppen, 2002). *The reader-dominated approach* is regarded as the English for academic purposes approach, and it places significant emphasis on the expectations of readers especially within the academic community, and asserts that the reader is not just an individual but also a vital element of the broader academic discourse community (Raimes, 1991). This particular approach puts great importance on both the structure and content of the material. Writers often engage in self-inquiry by questioning the purpose and intended audience of their writing (Raimes, 1983), and they consider the anticipations of their readers, carefully choose their content, and compose their papers in

accordance with these anticipations (Horowitz, 1986). According to Raimes (1991), this approach encompasses theme-oriented courses that apply diverse discourse frameworks, facilitating the development of learners' abilities in academic writing across several essay types, including cause and effect, compare and contrast, and argumentative. Researchers have developed a variety of theories to assist both learners and instructors regarding EFL writing.

Hodges (2017) identifies four primary theories that are fundamental to writing instruction. These theories include the Cognitive Process Theory, the Sociocultural Theory, the Social Cognitive and Self-Efficacy Theory, and the Ecological Theory. *The Cognitive Process Theory* suggests that writing requires cognitive processes such as generating ideas, preparation, structuring, and creatively composing. Hence, the cognitive writing process seeks to instruct learners in the use of mental processes to produce a written composition. This theory is widely favored over others due to its numerous advantages. It was first proposed by Flower and Hayes (1981) as a result of their examinations of learners' writings. Their primary objective was to establish a theoretical framework that clarifies the cognitive processes involved in the procedure of composing, so setting up a foundation for further comprehensive investigations into the thinking processes related to writing. According to Flower and Hayes (1981), this theory emphasizes four key aspects. First, writers engage in a cognitive process prior to writing. Second, a more complex conceptual framework is established during this phase. Third, writing involves establishing aims. Last, writers produce both micro and macro objectives to complete the composition. In essence, it concentrates solely on the cognitive

aspects of the writing process. The second theory, which was introduced by Vygotsky (1978), is *the Sociocultural Theory* of writing, and it emphasizes the significance of motivational, affective, and social factors as key elements of the writing procedure (Hodges, 2017). This theory addresses the concept of learning in humans as a social phenomenon and defines how their intelligence emerges from societal or cultural influences. Another important feature of this theory is the significance of socialization or interaction in fostering the cognitive processes involved in acquisition. Vygotsky (1978) proposes the concept of the Zone of Proximal Development (ZPD) concept, which claims that learners require assistance and social contact to facilitate their personal development. Thus, it is necessary for learners to engage in collaborative activities while also receiving guidance and support from instructors and other learners. The concept of *the Social Cognitive and Self-Efficacy Theory* in the context of writing is related to the interaction between mental, behavioral, personal, and external factors that influence motivation and actions (Bandura, 1993). The three primary components of this theory are modeling, copying, and learning through observation. In addition, self-efficacy is related to the writer's confidence in completing a writing assignment and being capable of facing any obstacles that may arise. It suggests that learners consistently enhance their viewpoint by reviewing previous outcomes. Therefore, learners tend to prefer tasks with a strong sense of self-efficacy, while avoiding tasks with weak efficacy (Bandura, 2001). The four important elements are self-examination, self-assessment, self-reaction, and self-efficacy. Thus, learners' mental ability and self-confidence to overcome difficulties are the strengths in the learning environment. According to Cooper (1986), *the Ecological*

Theory proposes that the idea of "an ecology of writing" extends far beyond the close surroundings of a single writer. Learners taking writing lessons engage in collaborative interactions to establish interconnected processes in which the collective output of writing serves as a mechanism for both self-regulation and mutual regulation among peers within the educational settings. The key feature is that the traits of a particular writer or text are mutually influenced from and influence the traits of other individuals and compositions within the network. A basic aspect of ecological networks is their natural flexibility. While the forms and subjects might be initially specified, they go through constant change over time. One potential drawback of this hypothesis is its tendency to alter with time (Selvaraj & Aziz, 2019).

2.1.2. Learner autonomy

Autonomy has been defined in several ways in the literature. The emergence of multiple explanations for autonomy can be explained by the idea that autonomy is not a singular behavior (Little, 1990). It has multiple dimensions and can take on various forms in different people, the same people over time, and in certain situations (Benson, 2001). Holec (1981) proposes a definition of learner autonomy in his report to the Council of Europe, which has since become mostly agreed upon and frequently referenced: "the ability to take charge of one's learning". He asserts that autonomy means assuming full responsibility for any actions connected with learning by determining objectives, defining content and objectives, choosing methods and techniques, monitoring the acquisition process, evaluating what one gets (Holec, 1981). Furthermore, Little (1991) suggests that

autonomy is the ability to be detached, think critically, make decisions, and act independently. It is also presumed about establishing a particular psychological relationship between both the subject matter of study and mode of instruction. Benson (2001) defines autonomy as "the capacity to take control of one's learning". In his explanation, he substituted the "ability" used in Holec's description with "capacity". He claims that, alongside the two dimensions of autonomy discussed by Holec (1981) and Little (1991), there is a third component that deserves attention which is one's management skills over learning the content. He claims that autonomy comprises the ability to be in charge of three key aspects of what is taught and learned: controlling learning, mental procedures, and thematic elements. Therefore, he views autonomy as the core aspect of language learning. Dickinson (1987), offering an alternative explanation for autonomy, highlighted the situational dimension of autonomy which refers to a state where learners take complete responsibility for every action related to their learning and following fulfillment of their choices. According to Cotterall (1995), learner autonomy can be defined as the degree to which learners can employ strategies to take control over their learning process.

A variety of explanations and approaches to studying the concept of autonomy have been introduced to the literature over the past few decades. Each interpretation is motivated by different presumptions about how to conceptualize this term. Benson (1997) categorizes how autonomy can be analyzed into three different types: *Technical*, *psychological*, and *political*. The *technical* version focuses on the instruction of learners and the implementation of strategies. It emphasizes the technical abilities necessary for

effectively managing independent study inside and outside of a traditional classroom environment without needing instructor interaction. In contrast, the *psychological* version highlights the learner's innate intellectual capacity, perceptions, and actions. It implies that learners build knowledge within their social environment, in collaboration with their instructors which ultimately results in establishing a mutual responsibility between them. Lastly, the *political* version is related to the learners' dominance over their inner and outer settings where they learn the content and procedures and their right to make use of that authority. Additionally, it underlines how important it is for second language learners to critically understand the social environment and draws attention to any obstacles that can stand in their way of communicating with people speaking the target language. Oxford (2003) later acknowledges Benson's conceptualizations of autonomy and broadened it by introducing a new component known as *the sociocultural view*. It views autonomous learning as a "socially regulated" phenomenon enhanced by learners interacting with one another and actively integrating with their social and cultural environment. Meanwhile, Smith (2003) proposes an alternative classification of the notion, distinguishing between *weak pedagogies* and *strong pedagogies*. The former perspective assumes that learners have a limited ability to independently guide their language development whereas the latter perceives learners as already self-sufficient and capable of working with their instructors. Another classification was identified by Kumaravadivelu (2003) between *narrow and broad approaches*, and the central point of the division is the specification of the objective. The *narrow* perspective posits that autonomy in the context of learning aims to facilitate self-directed learning skills by

supplying learners with the required materials and instructing them on effectively implementing cognitive, meta-cognitive, affective, and social strategies to reach their goals, also called "academic" autonomy. On the other hand, the *broad* version is referred to as "liberatory" autonomy because its objective is to promote a way of independence. Three further forms of autonomy were classified by Holliday (2003) from a different perspective: *native-speakerist*, *cultural-relativist*, and *social autonomy*. According to the *native-speakerist* perspective, learners are regarded as individuals from a different cultural background than their instructors, considered 'native speakers'. Autonomous learners are anticipated to exhibit behaviors that align with the characteristics of a 'native speaker' and its associated culture. *The cultural relativist* perspective implies that autonomy is conceptualized as a concept originating from Western cultural norms, and hence, non-native learners should refrain from adopting it owing to their cultural differences. Whereas the previous two perspectives are linked to culture, *social autonomy* views autonomy as a phenomenon that is universally present among all individuals within a society, irrespective of their cultural similarities or differences. Learner autonomy has its foundations in a number of prominent educational theories, namely Constructivism, the Critical Theory, Humanism, and the Experiential Learning Theory.

In the first theory, *constructivism* can be defined as the concept that learners actively build knowledge for themselves (Hein, 1991). This process involves both individual and social construction of meaning. According to Gray (1997), the constructivist perspective holds that learners actively produce knowledge through cognitive progress, and learners take the role of makers of meaning and constructors of knowledge. Successful learners

have the ability to engage in autonomous and purposeful learning which is achieved through the processes of goal identification, formulation, and reorganization, preparing a strategy, plan development and execution, and also self-regulation (Wang & Peverly, 1986). These assertions suggest that learners have responsibility and control over their learning process; therefore, they should have ideas regarding the selection of resources and methods of instruction (Van Esch & St.John, 2003). In short, the constructivist theory regarding language learning emphasizes the importance of learners taking full responsibility for their own learning, communication, engaged involvement with the target language, and a sense of self (Benson, 1997). The second one is *the Critical Theory*, a theoretical framework within the humanities and language studies, and it suggests that the learning process includes active involvement within the social environment. It seeks to underline how valuable social context is and what boundaries it has in regard to language learning. Moreover, this perspective argues that individual knowledge is shaped by the ideas and values specific to certain social groups or communities (Benson, 1997). According to Thanasoulas (2000), learners who have consciousness about where their learning is taking place socially and its constraints are likely to be more active and independent in learning themselves than those who do not. Another theoretical framework regarding learner autonomy is *Humanism*, which asserts that learning is a pursuit aimed at uncovering personal significance from within. According to Rogers (1961), the key principles of education are self-directed learning, self-realization, self-evaluation, autonomy, independence. The greatest amount of learning possible for learners is when they choose their own path, identify their own

resources and place their own obstacles (Rogers, 1969). In this regard, supporting learners and allowing them the space to make mistakes helps them attain self-actualization as it encourages active participation in learning activity. (Benson, 2011). Lastly, *the Experiential Learning Theory* describes the learning process as "the mechanisms by which knowledge is constructed via the transformation of experience" (Kolb, 1984). The theory stresses that learners are active in purposeful learning and this should include psychological mental and physical factors as a whole. Rather than merely experiencing it passively learners interact with their studies actively and reflectively (Kohonen, 2001). By increasing learners' awareness and engagement, experiential learning fosters the development of learner autonomy (Benson, 2011).

2.1.3. Reflective journals

Reflective practices on learning have been a significant part of language education and numerous definitions have been proposed in the literature. The concept of reflection was first introduced in Dewey's studies in the 1930s. According to Dewey (1933), reflection is the deliberate and thorough examination of a thought or presumed knowledge, considering the supporting evidence and the potential outcomes it may lead to. Schön (1987) defines reflection as a way of addressing and resolving practical issues, enabling individuals to be receptive to various possibilities, which involves describing the challenges, contextualizing them, and subsequently identifying and implementing appropriate responses and perspectives. Boyd and Fales (1983) describe reflection as internally analyzing and investigating a matter of concern that is prompted by an

experience that helps to generate and clarify personal understanding and leads to a transformed conceptual viewpoint. Reflective practice is reviewing one's experiences, and analyzing and interpreting all the knowledge related to a person's behaviors and its circumstances (Al Mahmud, 2013). Regarding the context of education, reflective practice is adopting well-thought and rational judgments about educational problems and evaluating the outcomes of these choices (Taggart & Wilson, 1998). It involves the process of learning through introspection and examining past experiences from a different perspective, ultimately resulting in implementing new actions (Jasper, 2003). A reflective journal is an individual's personalized record of their learning process and serves as a reaction to their learning experience, allowing for a deeper reflection on errors, processes, and the overall learning journey (Moon, 1999). A reflective diary or journal is a medium that allows learners to record their ideas, responses to certain circumstances, and even their deepest concerns related to their learning process (Hiemstra, 2001). Journaling, when implemented as a learning tool or a way to foster reflection, involves documenting one's own learning experiences, contemplating one's views and emotions, analyzing classroom activities, and understanding the underlying motivations behind one's actions (Valli, 1997).

Schön (1983) categorizes reflective activity into two distinct forms based on the periods in which they happen: *reflection-in-action* and *reflection-on-action*. *Reflection-in-action* is the act of unconsciously reflecting on unforeseen, astounding, or puzzling circumstances while they take place, whereas *reflection-on-action* involves consciously reflecting on the same conditions after they happen. Killon and

Todnem (1991) extend Schön's (1983) model by adding a dimension, namely *reflection-for-action*. *Reflection-for-action* describes the process of contemplating future acts to modify or enhance practices. A more contemporary model that divides reflection into four categories was developed by Moon (2004). The initial stage refers to *descriptive writing*, which involves providing an explanation of situations or presenting literary reports. The second level is defined as *descriptive reflection*, which involves the use of descriptive expression to provide signs of further analysis. The third phase is *dialogic reflection*, which carefully evaluates conclusions and explores alternate explanations and hypotheses. The ultimate level is defined as *critical reflection* wherein "identical actions and situations can be perceived within varying settings, each with distinct meanings linked to those settings" (Moon, 2004). In the literature, three main theoretical frameworks form the basis of reflective practice, and these frameworks were developed by some of the most prominent researchers in the field: Dewey (1933), Kolb (1984), and Boud et al. (1985).

Dewey (1933) views reflection as a rationalized process. He argues that reflecting on our experiences can help us make sense of things that are confusing or difficult to understand. He proposes that reflective learning should involve remembering the experience and formulating inquiries to delve into the reasons behind the conclusion and the potential alternative courses of action that could have resulted in another way. Kolb (1984) examines the components of reflection and uses them to develop the learning cycle framework. His Experiential Learning Theory has four phases in which learners engage in all aspects of the process. In the first stage, namely *concrete experience*, learners directly engage with a tangible and real-life experience. This could involve encountering a novel

experience or circumstance or re-evaluating a previous experience through the perspective of current views. In the second stage, *reflective observation of the new experience*, learners participate in reflective observation by considering the latest experience in relation to their pre-existing knowledge. Any discrepancies between what one has experienced and what one has learned are especially crucial. *Abstract conceptualization*, the third stage, refers to the process of reflecting on an event and developing a new idea or modifying an earlier abstract notion based on what has been learned from previous experiences. Lastly, *active experimentation* refers to conducting experiments on newly devised or modified ideas. Learners actualize their concepts hence observing the following. According to Boud et al. (1985), emotional context of reflection is overlooked by both Dewey's and Kolb's theories. Before reckoning reflection as a valid route through which learning can be achieved, it is important to think about the emotions attached to what is happening. They go on to say that these feelings might shape how learners recollect events. Situations could be interpreted differently under the sway of strong emotions; while reflecting neglect of emotional aspects may lead to focus on distinct ones during an event. A learner's failure to account for the effect of their feelings may make the experience less educative during reflective practices.

2.1.4. AI, AI and writing, AI and learner autonomy, AI-based reflective journals

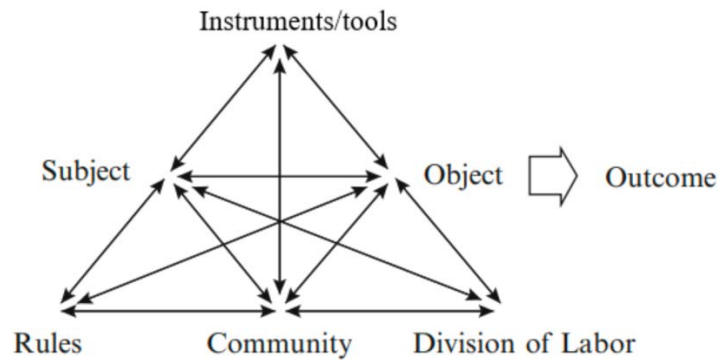
The implementation of AI in the field of language learning has been the subject of significant interest in the past few decades as researchers have been investigating its capacity to improve learners' language skills. Russel and Norvig (2010) refer to AI as the ability of machines to show human-like thinking and rational actions. According to Fitria

(2021), AI is a discipline within computer science that focuses on addressing cognitive challenges associated with the human mind, including understanding, problem-solving, and pattern identification. According to Radford et al. (2019), an artificial intelligence system is the network of computers with human-like intellect such as perception of images, decision making among others. AI is a term often used to refer to a category of computational technology that employs computer networks as well as automated technology; these can act as if they were human minds because they are able to perform the same cognitive tasks that humans do (Baker et al., 2019). AI is a technology that mimics human brain function and behavior to allow it to think and answer like human beings. To assure the understanding of the information sources and the direction of the projects that are aimed at improving education quality in developing countries (Maneehaet & Wannapiroon, 2019; Tang & Hai, 2021).

AI can be divided into two categories based on its capabilities and functionalities. While the former includes Weak AI (Narrow AI), General AI, and Strong AI (Super AI); the latter involves Reactive Machines, Limited Memory, Theory of Mind, and Self-aware AI. Due to its limited scope, *Narrow AI* can only execute a certain task and cannot carry out additional tasks. Therefore, it is referred to as *Weak AI*. Examples of Narrow AI include recommendations on shopping websites, speech detection, and image recognition (Sandhu & Gide, 2019). *General AI* technology has the capability to exhibit superior intelligence and independent thinking, similar to that of a human. Recently, no existing system can be flawlessly classified as General AI. The hypothetical construct of *Strong AI* results from General AI, which can exceed human intelligence and outperform humans in

certain activities. The features of Strong AI include logical thinking, problem-solving, judgment, organizing, learning, and interaction. *Reactive Machines* do not save memories or knowledge for later use. They solely concentrate on the present situation. They respond to these events with the most optimal course of action available. *Limited Memory* machines have the ability to temporarily store previous encounters or memories for a brief duration. They can utilize such information for an amount of time. *Theory of Mind* is a concept that involves the understanding of human feelings and views. It should possess the capacity to engage in social interactions. Currently, there is no existing development of the Theory of Mind machines. The next generation of artificial intelligence lies in the development of *Self-aware AI*. This type of conscious machine possessing its perception and emotions will be referred to as a Self-aware AI, which is now a hypothetical notion (Chaudhari et al., 2020). To understand the influence of AI on language learning thoroughly, two major frameworks are to be examined: The Activity Theory (AT) and the Technology Acceptance Model (TAM).

Figure 1. Activity Theory Framework (Engeström, 1987)



The Activity Theory emerged based on Vygotsky's (1978) triangle model of subject, object, and tools regarding psychological development, and was further developed by Engeström (1987). According to Jonassen and Rohrer-Murphy (1999), this scientific method allows one to look into the need, operation, and consequences of technology-incorporated educational environment. The subject denotes a performing person or group. As for the object, it acts as a factor or target which makes the subject do that particular thing. Facilitating interaction between a subject and an object are the following tools such as physical objects and psychological elements. The subject's conformance to established standards called rules determines the extent of collaboration among the participating parties. The systemic organization occupation allocation of responsibilities among persons within a certain task is termed division of labor. We apply 'community' to mean the social groups that facilitate interrelation between single parts of it (Zheng et al., 2020). AT has provided insight on how learners utilize IT-based materials for improvement of foreign linguistics acquisition. It helps us in understanding the degree to which learner-AI interaction is impacted by various other resources and scrutinize the interactions between

learners, AI tools, and other key elements in performing a task (Guo et al., 2020). Another widely recognized framework is *the Technology Acceptance Model* which clarifies the determinants influencing user acceptance and intention towards different technologies (Davis, 1989). The TAM describes people's behavioral intention through the latest technology's perceived usefulness which is related to individuals' opinion on utilizing a specific technology would improve their professional effectiveness. Perceived ease of use refers to the extent to which intended users feel that utilizing a specific technology would require minimal effort (Davis et al., 1989). According to Warshaw and Davis (1985), users' behavioral intention is the point at which people have taken notice of engaging in or avoiding an activity; in future times. In other words, the TAM claims that acceptance of technology depends mostly on behavioral intention that in turn is guided by user's judgment on how useful or easy the technology is (Farahat, 2012).

2.2. Research Results

This section starts by discussing what has already been done in terms of academic research around autonomous learning for learners who are learning English specifically by writing essays or doing any other form of writing. Then, it highlights some of the research that has been conducted based on journals that reflect on how learners can become more independent when learning English. Finally, it ends with a discussion about the potential of AI technology to enhance learner autonomy during writing sessions in EFL learning contexts.

2.2.1. Research on Learner Autonomy in EFL Writing

Research shows that autonomy of the learner has a big role in EFL writing, and many factors such as instruction, approach or proficiency level can highly affect it. In their study, Nguyen and Gu (2013) examined how strategy-based instruction would affect the development of learner autonomy. 37 students participated in the experimental group while 54 participated in two control groups at a university in Vietnam. The curriculum for the experimental group involved a metacognition training module that lasted eight weeks. The study showed that compared to two control groups, learners in the experimental group improved more on their ability of strategizing, monitoring and evaluating writing assignments. The most frequently practiced skill was planning, immediately followed by evaluating and monitoring. Yeung (2016) investigated explored the idea of learner independence in writing. It was conducted at three high schools in Hong Kong where the setting was naturalistic so as to obtain quantitative data. A survey was developed to measure progress of participants' towards the use process oriented approach to writing. Previous studies have demonstrated the effectiveness of this strategy in enhancing learner autonomy. Its efficacy was explored further in current research. From survey data factors analysis and comparison of pre-post measures totals for course completers using paired-sample t-test, it became apparent that achieving some degree of independence from teachers could be crucial in fostering students' sense of self-determination for writing proficiency. A study conducted by Tajmirriahi and Rezvani (2021) examined how autonomous EFL learners were when writing among Iranian university students learning English. They specifically examined the connection between learner's sense of self-

concept, their academic performance, and the independent behavior they demonstrate. There were three interconnected stages within it. The first one evaluated how prepared were 69 EFL students taking English in three complete writing classes. Freewriting autonomy was a subject of this assessment. Additionally, researchers evaluated their academic self-concept (ASC) and asked students' to state their grade point average to measure their achievement. After the focus group interview, responses from the group were able to yield three major concepts: the undervalued role of writing, underutilization of strategies, and no compelling assistance from teachers in matters of autonomy over writing. In the final stage of the study, regression and correlation analyses were used to examine potential triangular relationships between learner autonomy, ASC, and academic performance based on the findings obtained in phase one. The results indicated that EFL university students exhibited the highest level of autonomy in their attitudes towards writing compared to their abilities and strategy use. Yet, their level of self-regulated learning did not meet the desired standard. Furthermore, there was a notable association between ASC and learner autonomy in writing. However, academic accomplishment was found to be insignificant with respect to these factors, indicating no triangle correlation among them. In their study, Gultom et al. (2022) aimed to assess the degree of self-directed learning exhibited by 125 university students and its correlation with their writing proficiency. Quantitative data was collected using a learner autonomy survey and a writing examination. The data was evaluated descriptively using the SPSS program. A Pearson Product Moment correlation analysis took place for ascertaining a substantial and positive link between learner autonomy and writing skills. The study revealed a strong and favorable association between the level of learner autonomy and students' writing

proficiency. It suggested that learners who have more independence get advantages from cultivating strong writing skills. Additionally, this the study observed that autonomy of learners is one of investigated attributes for performance prediction. Al-Shboul et al. (2023) examined the relationship between autonomous learning and intrinsic motivation within the framework of the teaching of EFL writing. They conducted the study during one semester with 20 participants selected from the university students. They realized that the attitude of university students to independent work was rather positive which had a direct impact on their study output. This means that the inclusion of self-directed activities may contribute to increased inner motivation and consequently academic success as well. This study involved using a paired sample t-test to analyze students' perceptions and these learners identified with autonomous engagement. In general, taking part in self-directed tasks contributed in enhancing students' competences both in writing EFL and performing in other academic fields.

2.2.2. Research on the Effect of Reflective Journals on Learner Autonomy in EFL Writing

Research indicates that keeping reflective journals has a mostly favorable impact on developing EFL writing skills. Kamberi (2013) carried out a study in North Macedonia that aimed to foster learner autonomy in language learning through the integration of student writing in an EFL course. The study included 31 participants who were selected via convenience sampling. The journals were gathered periodically and analyzed using the modified content analysis method to determine the primary themes associated with independent learning and the experiences of students. Semi-structured interviews took

place for supporting content analysis outcomes. The findings presented insights into the efficacy of journal writing in fostering learner autonomy, developing writing competence, and developing English language skills. In their study, Jafarigohar and Mortazavi (2013) studied with Iranian EFL learners on the effects of three methods, specifically journal writing individually, collaboratively with classmates, and with the instructor. 150 female English learners enrolled in a language institute were surveyed to complete the Academic Self-Regulated Learning Scale (ASRL-S). From the first group of participants, a total of 60 upper-intermediate students were chosen regarding their ASRL-S pre-test scores. After dividing these students into four groups at random, the ASRL-S was performed again following the treatment. It was revealed that collaborative journals offering an opportunity for getting feedback from either the instructor or peers can greatly enhance learners' self-regulation skills. Students who maintained a reflective notebook without sharing it, either with his teacher nor peers, outperformed those who did not use reflective method. Thus, these research results further legitimised the utilization of personal journal writing as a tool for self-knowledge generation that enhanced substantial improvement among learners concerning self-regulation. Duong and Seepho (2017) conducted their research in Vietnam among 35 second-year English majors who had to take three compulsory writing courses which were Writing I, Writing II, and Writing III. They were selected through convenience sampling method. The purpose of this study was to investigate how learner autonomy could be promoted within an EFL writing course via portfolio-based learner autonomy development (PLAD) model. In terms of methodology, the data was collected using a survey with closed-ended and open-ended questions and kept reflective entries in portfolios. Both qualitative research and quantitative study were conducted for this

research. Descriptive statistics and inferential analyses took place for assessing quantitative data whereas content analysis examined the qualitative data. Results pointed out progress of the learner autonomy once portfolio became a tool for pedagogical purposes during the course. Particularly, participants indicated awareness on autonomous tasks as well as favorable attitude towards them especially on reflective writing activities implying learner autonomy. They found self-assessment very challenging since they did not trust themselves and lacked background knowledge. Şener and Mede (2023) investigated the impact of reflective practice on learner autonomy following a mixed-method approach, which involved learners in the Academic English Skills program (n = 41). The results of the quantitative analysis did not produce evidence for substantial changes in autonomy or reflectivity levels according to pre-test and post-test scores, showing some notable differences between response time and autonomy. However, it became evident that none existed in the overall change in learner autonomy scale results. The qualitative results from student interviews seemed consistent with this as they highlighted positive attitudes toward reflective practice among students. In their study, Zhang et al. (2022) collected data from 38 Chinese EFL learners who completed three journal writing tasks. The participants were required to reflect on their writing processes while focusing on three main areas. The students' types of strategies were examined first, which had changed in their current reflective journals. Second, they compared the use of these strategies among students with different writing proficiency levels. Last, they assessed the impact of reflective journal writing on the students' self-regulated writing strategies, specifically, and on their L2 writing overall. Furthermore, their journal data revealed distinct differences in proficiency levels among participants. Students with high

proficiency were notably more inclined to use preparation, feedback managing, and controlling resources, while those with low proficiency were considerably more prone to establish goals. The findings indicated that engaging in journaling enhanced students' consciousness and potentially led to a rise for using autonomous techniques. The data demonstrated how students assimilated and rebuilt many self-regulated learning processes occurring through the act of writing reflective diaries.

2.2.3. Research on the use of AI in EFL Writing

Research shows that many artificial intelligence tools have some positive effects on developing writing skills. Dodigovic (2007) investigated the use of artificial intelligence in correcting errors in second language learning, intending to integrate two different methods. The software discussed in this research was the Intelligent Tutor, which identifies common mistakes made by college students studying English as a second language. A quasi-experimental study was conducted with 266 college students from three countries, which included a pre-test for assessing grammar perception, an intervention using the Intelligent Tutor, and a post-test that included short answer questions. The results indicated that artificial intelligence is a highly effective tool for error correction, resulting in an average error rate reduction of 83%. Nazari et al. (2021) aimed to investigate the effectiveness of a group-based artificial intelligence writing tool for academic writing in English. In this study, a total of 120 English second postgraduate students were randomly assigned to either the group using AI technology (n = 60) or the group not using AI technology (NEAI). The parametric test of analyzing covariance provided important findings indicating that students who were part of the AI intervention group showed

noteworthy improvements in post-intervention scores for mental involvement and self-efficiency for writing compared to the NEAI group. The findings indicated that AI-driven writing tools have the potential to effectively facilitate learning behavior, enhance the adoption of technology in evaluation, and provide feedback for English academic writing. In their study, Chang et al. (2021) investigated the EFL writing proficiency when adopting an AI-powered writing feedback tool known as Grammarly and the students' receptiveness towards this recently developed technology. This quasi-experimental design study involved 53 Chinese EFL students. The participants were randomized to the experimental and control groups via convenience sampling. Participants in the experimental group used Grammarly for revising papers while the ones in control group didn't get any help from the same tool. Five essays were completed during the course of the 16-week treatment. Finally, an interview with the experimental group ascertained their perception on Grammarly. According to independent t-test results, students who participated in the experiment showed greater improvement in writing skills after post-test than students who did not participate in the experiment. The open-ended questions revealed that students expressed their gratitude for Grammarly's quick correction system based on artificial intelligence. how AI-driven pedagogy could be helpful when it comes to teaching academic English writing. More specifically, this study examined how an AI-based writing tool affects teaching and assessment processes in a context where English is learned as a foreign language. A pre-test/post-test design was used to determine whether the tool could improve student writing abilities. The results revealed that there was improvement in writing scores from the first test to the last one indicating that intelligence-based writing tool has a positive influence. Moreover, AI tool was found to make the skill

of teaching better because it gave timely feedback on assignments, kept students engaged in learning writing composition, made grading easier and ensured and prompt feedback was given. Finally, findings emphasized the potential of AI-driven pedagogy for changing the traditional ways in teaching writing and the implications for educators', students' and edtech vendors' practices. Kwon et al. (2023) examined whether chatbot adoption by students was capable of improving their essay writing performance and the attitude of the students towards the writing task. Seventy-five children in elementary school in Korea were divided into a control group that took teacher-centered instruction, and a experimental group subjected to self-expression through chatbots for fifteen weeks. This chatbot was constructed through Google's Dialogflow AI engine which included some sentences from an elementary school textbook in English. This led to the need for pre-test to evaluate the starting point of writing competence before any actions were taken. After fifteen weeks another test focusing on different writing subject matter took place after which evaluation could be done once again but this time looking at other variables too such as responses from an item questionnaire that related specifically to individual personal perspectives on usage of chatbot by each learner during foreign language learning process had as well been received over time. It turned out that the two groups had equal initial writing competence. Nevertheless, the experimental group performed notably higher than the control group, which results in positive effects on their scores in the final test. The chat had also proven to work well among experimental group members because it facilitated their proficiency in the language they were learning as well as made them feel comfortable.

2.2.4. Research on the use of AI on Learner Autonomy in EFL Writing

Numerous studies on the implementation of AI tools on learner autonomy regarding EFL writing show that these tools are helpful and facilitating. Nagata et al. (2020) investigated the concept that a basic chatbot, such as ELIZA, has a beneficial impact on enhancing learners' writing productivity. The study involved eighteen university students who wrote their articles on two topics each under two different conditions where one was a chatbot-based platform while the other was a standard editor. The chatbot platform contained fixed prompts, but the traditional editor required learners to write and edit their works similar to the usual English writing homework. So, in order to prevent order effect, participants were assigned randomly to one of the four sets of themes and structures. At the end, a total of 36 essays from 18 students were collected by the research team. After each session for every learner, there was a questionnaire which had questions touching on their frank thoughts as well as critique about the writing technique they had employed. According to the findings of this study, the chatbot-based system realized good performance concerning improving writing skills and self-editing among others. Specifically, learners tended to utilize more varied phrasal expressions and correct mistakes during self-revision procedures. Moreover, responses given by chatbots during writing exercises acted as useful references for students while reviewing their own works so that they could make them better. In a similar study, Agustini (2023) employed a mixed-methods design, using questionnaires and semi-structured interviews, for understanding the way students employed ChatGPT tool when controlling their learning and set goals on matters pertaining to their language. The research work also explored the possible

integration of ChatGPT as a means of enhancing autonomy that allows an individualized learning session to take place within the curricula. Six students were selected from Indonesian high schools and their ages were 16 to 18 years old respectively being students completing their final year of the high school. The data analysis involved themes while focusing on some key areas during transcription writing. The outcomes indicated that ChatGPT significantly affected self-regulated learning strategies in English since it was offering immediate feedback for identification of strong points and errors enhancing learning autonomy with language proficiency. The students also demonstrated enhanced motivation as well as being actively involved in learning English. Abdalkader (2023) aimed to examine the effects of implementing certain AI tasks to improve the fluency for EFL writing and self-regulation skills among students in the preparation stage of a governmental language school. The study involved 33 government school students from Egypt. He used some tools such as inventory to measure components of writing fluency, rubric for rating papers, pre-/post-tests to assess fluency in writing and self-regulation scale. This curriculum incorporated several AI programs like Grammarly, Minecraft or Semantris AI vocabulary game along with other chatbots for students' immersion with English through practice sessions within it. The t-test was employed to ascertain differences between pre and post-test results alongside calculating the effect size. Thereafter, the researcher qualitatively analyzed their writing fluency levels after which it was found out most of them improved after getting used to it for some time through calculations based on their individual performances. It was noticed that through the AI apps there was enhanced writing fluency and self-regulation among learners, which implies that these apps are important to the learning process of students. Wei (2023) used

a combination of qualitative and quantitative methods to investigate the impact of AI-facilitated language training on academic performance in English, motivation to learn a second language, and ability to independently manage learning among students studying EFL. From two intact groups, totaling 60 college students, the experimental group was instructed through AI whereas the standard instruction was delivered to the control group. Grammar, vocabulary, and writing proficiency were assessed through a pretest and posttest. Moreover, autonomous learning was assessed by self-report surveys. The experimental group showed better performance than the control group with regard to all assessed categories as indicated by the results of quantitative analyses. It was also found out that they utilized autonomous learning mechanisms more effectively. Yan (2023) aimed to use the text generation ability of ChatGPT in the course of a one-week L2 writing practicum. The method of this study was qualitative as it involved classroom observations, analysis of learning logs, and extensive interviewing among eight Chinese undergraduate students who majored in EFL. The data were gathered through observation, document analysis, and theme analysis of interviews while the participants were selected with specific criteria that focused on their own experiences and views regarding ChatGPT's influence on their writing. The findings confirmed that ChatGPT could be used to teach L2 writing due to its computerized output generation process which is believed can boost producing written text in proficiency students by far. Students appreciated ChatGPT for its ability to generate text for writing assignments, specifically highlighting the remarkable speed at which the software produces text.

2.2.5. Research on AI-enhanced Reflective Journals on Learner Autonomy in EFL Writing

Research shows that AI-based reflective tools are efficacious instruments for enhancing learner autonomy to engage in writing activities. Cheng et al. (2016) examined the effects of automated feedback on reflective ability development in Chinese EFL students based on their diary entries. Initially, diary entries and essays were collected from 138 Chinese undergraduates who studied English for three months. The students were split into the experimental group (n = 82) and the control group (n = 56). The experimental group obtained automatic feedback on their reflective diaries. It was observed that the experimental group experienced noticeable development in their reflectivity, whereas the control group recorded no such improvement. Besides, learners who were more adept at analyzing reflective diaries tended to score higher grades on essays than those who did less well with this aspect. The study revealed that automated feedback could enhance students' reflective skills and this showed a positive relationship with essay writing proficiency. Similarly, Cheng (2017) utilized mixed-method design that included reflective diaries, surveys, and interviews to examine the impact of online automated feedback on students' diary entries in a 13-week EFL course at the college level. One hundred and thirty-eight undergraduate students participated in this survey, with 82 students being in the experimental group while 56 belonging to the control group. Additionally, both sets of participants got similar training concerning reflective writing from one instructor. However, the experimental group had the opportunity to use a web-based categorization tool to create online analytic feedback on their second and third

reflective diaries, whereas the control group did not. The experimental group indicated a noteworthy development in scores throughout the reflective diaries. The data primarily confirmed the importance of online automated feedback for written reflection. Han and Sari (2022) used a quasi-experimental research design to investigate the effects of automated feedback on students' writing assessments and correctness. Data was gathered from a sample of 75 Turkish EFL students at a university. The experimental group was subjected to a combination of automated and teacher feedback, whereas the control group got feedback solely from an instructor. Data was gathered via both quantitative and qualitative methods, including pre-test/post-test writing activities, Criterion evaluation reports, and student reflections. The findings indicated that those who got both automated teacher feedback and complete teacher feedback had comparable progress in their writing grades. Nevertheless, the integration of automated teacher feedback proved to be more efficacious than receiving complete teacher feedback in lowering the students' grammatical mistakes. The outcomes of the responses presented some clues on the automatic writing evaluation in EFL writing classes. Malik et al. (2023) aimed at exploring the opinions of students on using artificial intelligence in creating academic essays. This study included 245 undergraduate students drawn from 25 different universities in Indonesia's Central and Eastern regions. The objective was to collect information by means of a Google form that would help to reveal students' attitudes towards the integration of AI technologies into their academic essay writing processes. According to the findings, there was a positive reaction from the students towards artificial intelligence powered tools for writing essays because they recognised their strength in areas like

grammar correction and organisation of an essay. However, some students expressed concerns about possible outcomes concerning creativity and critical thinking outcomes.

2.2.6. Conclusion

The review of the related literature highlights the crucial role of learner autonomy as one of the essential elements in language learning, with research revealing that several variables, including type of instruction, approach, self-concept, proficiency level, and motivation have an influence on it. Additionally, research indicates a positive correlation between learner autonomy and writing skills. In other words, autonomous learners are more likely to be more proficient in writing, and proficient learners are more eager to actively engage in writing practices. Many studies examine the use of AI in language learning and demonstrate its efficacy in motivating learners to write since it facilitates the learning process through more interaction. It improves learners' language proficiency by enhancing their writing ability regarding grammar, vocabulary, content, and organization. Furthermore, learners and instructors mostly have favorable attitudes and perceptions toward the use of AI tools in writing classes. Although there is limited research on the use of AI-based reflective tools on learner autonomy for developing EFL writing skills, research suggests that they are helpful tools for promoting reflection skills hence boosting writing performance by increasing learners' competence, determination, motivation, and engagement. Hence, it is necessary to further the research on the impact of AI-based reflective tools on learner autonomy for developing EFL writing skills is essential.

3. METHODOLOGY

This chapter describes the methodology and procedures carried out throughout the study. First, the research design is presented. Then, the participants of the research are addressed. Next, data collection tools are identified. After that, the procedures of the research are explained. Finally, data analysis is provided.

3.1. Research Design

This study mainly investigates the impact of AI-enhanced reflective journals on learner autonomy in EFL writing. Thus, it is designed according to the form of research that is carried out with certain participants and settings to address a particular real-life issue. The study involves an analytic approach in that it seeks to break down data into parts and then link them to create a complete view of the present concept of learner autonomy. There is a deductive purpose of investigating whether using AI-enhanced reflective journals in EFL classes is efficient in promoting learner autonomy, regarding this type of reflective journaling has several advantages in developing EFL writing skills. Furthermore, since examining the results of specific and controlled procedures provided to subjects will be the focus of the current study, the research design can be regarded as experimental in which the outcomes of these procedures administered to participants that are usually divided into groups are studied (Selinger & Shohamy, 1989). Moreover, it employs a particular kind of experimental design, a quasi-experimental design for which

the experimental and control groups are selected from pre-established groups like classes or settings rather than participants being randomly allocated to groups (Creswell, 2014). Pre- and post-tests are administered to the experimental and control groups yet only the experimental group is given the treatment while the control group is not given any treatment but serves as a reference point for comparable results (Selinger & Shohamy, 1989). Although the use of unchanged groups can be considered a drawback since it may have an impact on the findings and solid inferences may not be reached, they nevertheless provide important proof of interventions that are effective for naturally existing groups (Creswell & Plano Clark, 2017).

3.2. Participants

The study involved the participation of 36 students enrolled in the English preparatory program of the School of Foreign Languages at a foundation university located in Istanbul, Turkiye. All of the participants were native speakers of Turkish, and EFL learners at the B1 level according to CEFR, in other words, they were at the intermediate level. Male participants made up 17 of the participants (47.22%), whereas there were 19 female participants (52.78%). The mean of the participants' ages was 18.83 years old as their ages varied between 18 and 21. Regarding the departments of the participants, 18 participants (50%) were from the Faculty of Health Sciences and the other half were from the Faculty of Engineering. 18 participants were from the Physiotherapy and Rehabilitation Department (50%), 16 participants were from Software Engineering (44.4%), and 2 of them were from Industrial Engineering (5.6%). Students enrolled in the preparatory

school who get less than 60 points out of 100 on the English Proficiency examination are required to follow a comprehensive English language curriculum prior to beginning their department courses which are taught in English. Their placement in classes is based on the levels suggested by their achievement results in the exam before starting the first module. They receive a total of 23 hours of English instruction over the course of one week. The core curriculum is derived from a coursebook selected by the department and covers all aspects of language proficiency, including vocabulary, grammar, listening, reading, writing, and speaking. Additionally, students were provided with writing guides that they were expected to follow throughout class time. Due to their availability, two classes that had already been present were selected for the research using convenience sampling.

Table 1. Demographic Information of the Participants

	Control			Experimental			Total		
	Min.	Max.	M.	Min.	Max.	M.	Min.	Max.	M.
Age	18	21	18.77	18	20	18.88	18	21	18.83
Gender	13 Male (72.23%)			4 Male (22.22%)			17 Male (47.22%)		
	5 Female (27.77%)			14 Female (77.78%)			19 Female (52.78%)		
Department	16 Software Engineering (88.89%)			18 Physiotherapy and Rehabilitation (100%)					
	2 Industrial Engineering (11.11%)								

Additionally, a focus group study was conducted to explore some underlying reasons behind the observed results. Six participants from each group were chosen at random for

a 30-minute session held separately. The participants were evenly divided by gender, with half being male and half female. The participants' ages ranged from 18 to 20 years, with an average age of 18.75 years.

3.3. Tools

A background questionnaire and the LAS developed by Orakcı and Gelişli (2017) were employed to collect data for the research (See Appendix A). In addition, a focus group interview was carried out with 12 participants of both groups. The background questionnaire was used to collect the demographic data like the participants' ages, genders, departments, and proficiency levels in English. The LAS, which is a validated instrument specifically designed to measure the level of learner autonomy, involved a five-point Likert Scale with 14 items, and the participants were supposed to respond considering their autonomy in English language learning. A scale could be found for each statement demonstrating the degree of agreement that went from one to five as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The items in the LAS were tested for construct validity and reliability through exploratory and confirmatory factor analyses with certain items being reverse-coded to capture nuances in responses related to learner autonomy. A high score on the LAS indicated a greater degree of learner autonomy, while a low score suggested a lower level of autonomy. Regarding the validity and reliability, % of the variance for scale was 74% and it has a high level of reliability value since its reliability coefficient is above .95 ($\alpha = .97$). Therefore, it is a reliable and valid instrument for measuring learners' autonomy in writing in English.

Lastly, a focus group interview involving 12 participants—six participants from each group—was conducted as part of the study. To capture genuine and unrestrained opinions, participants from the control and experimental groups were interviewed separately, with each session lasting around 30 minutes. The interview comprised eight questions aimed at exploring participants' views on reflective writing and autonomous learning. During these face-to-face interview sessions, the researcher carefully recorded the responses of each participant. All personal information concerning the participants was anonymized and kept confidential.

3.4. Procedure

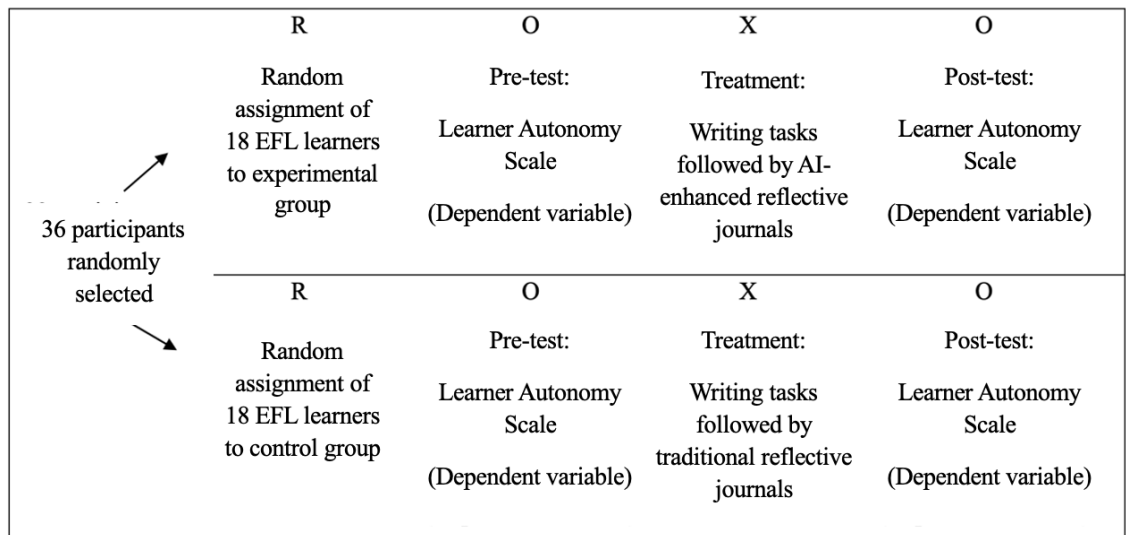
The foundation university at which the research was intended to be carried out was notified to request confirmation (See Appendix B) following the ethical committee acceptance was obtained from the Faculty of Educational Sciences at İstanbul Medeniyet University. Next, the participants were informed regarding the objective, significance, and process. In addition, it was stressed that participation in the study was optional and that all responses would remain confidential. The participants were further guaranteed that the research would be conducted in complete anonymity, and that the data collected would be utilized exclusively for scientific objectives. Participants' permission was requested by adding a special segment asking for their consent at the starting point of the Google Forms survey which they could view through Microsoft Teams.

The study took place during the Spring Semester of the 2023-2024 Academic Year. Initially, the control and experimental groups were selected at random from two

previously formed sections. Then, the participants in both groups completed the pre-test. Subsequently, they took part in various tasks involving paragraph writing. The control group kept traditional reflective journals after each writing task while the experimental group wrote AI-assisted reflective journals via an artificial intelligence chatbot software, ChatGPT. In the end, both groups completed the post-test. Following the post-tests, a focus group interview was conducted with 12 participants, including 6 participants from each group. The face-to-face interviews lasted for a total of 60 minutes. All of the steps are presented in Figure 2.

Figure 2. The flowchart of the randomized pretest-posttest control and experimental group design

(Fraenkel et al., 2012)



Despite following the same syllabus and studying parallel subjects and concepts from the matching materials, the two classes were instructed by different teachers as required by the school policies. Therefore, measures were taken to ensure that all participants were provided with identical directions, activities, and learning resources throughout the

treatment phase. To eliminate the risk of potential influence, any biased remarks or prompting inquiries were avoided. In the control group, participants kept traditional reflective journals after completing five writing practices whereas participants in the experimental group wrote AI-assisted reflective journals after doing the same writing exercises using the chatbot, after which each group wrote their journals on a piece of paper in their native language. The participants were told to write in Turkish while keeping their journals since it would be much easier for them to reflect on themselves, especially when their English level was considered. To meet the objectives of the research, it was ensured that the participants in the experimental group knew how to sign up and log in to their ChatGPT accounts and they were also explicitly guided about giving appropriate prompts to get assistance from the chatbot for writing a reflective journal.

3.4.1. Pre-test administration

To gather demographic information regarding the departments, genders, and ages of the participants, the background questionnaire added to the LAS was provided before starting the treatment. Following the administration of the LAS, participants were required to select the most suitable option for themselves, which lasted around ten minutes. Their responses were to be based on 14 items that assessed their levels of learner autonomy. The survey was administered in Turkish, consistent with the original study, therefore it was convenient for the participants to comprehend all the items and provide an appropriate response. In addition, the instructors offered assistance and clarifications to prevent any misconceptions and ambiguity.

3.4.2. The practice phase

The writing exercises were shared as supplementary materials, and all participating students were to compose paragraphs of between 200 to 250 words on specific IELTS subjects. They had a basic understanding of paragraph structure throughout their writing lessons since they were taught different kinds of paragraphs including academic, narrative, cause and effect, and comparison and contrast paragraphs. Several paragraph samples were examined in their writing booklets, and they completed various exercises designed to enhance their comprehension of content, organization, grammar, vocabulary, unity, and coherence. The practice phase went on for five weeks during which all participants in the control and experimental groups followed the same tasks and procedures, as can be seen in Table 2. Throughout this period, the participants were involved in discussions and composed paragraphs in addition to getting instructions and feedback weekly.

Table 2. The Weekly Writing Tasks

Week	Writing Task	Focus	Procedure
Week 1	Writing an academic paragraph about a special person	How to practice the format, sentence structure, and organization	
Week 2	Writing a narrative paragraph about a memorable moment	How to identify and use time-order signals in narratives	
Week 3	Writing an academic paragraph about a favorite sport or hobby	How to identify parts of a paragraph and use transition signals	Analyzing the sample paragraphs Brainstorm Outlining Writing
Week 4	Writing a cause and effect paragraph about asocial issue	How to use transition signals and organize causes and effects	Instructor feedback
Week 5	Writing a comparison and contrast paragraph about two different education systems	How to identify and organize similarities and differences using appropriate transition signals	

Week One

In the first week of the writing tasks, the participants were instructed on the process of composing an academic paragraph. Throughout this process, they mainly focused on the basic format and features of an academic paragraph. In addition, they were informed about how to practice the format, sentence structure, and organization appropriate for academic writing. First, they analyzed the samples of academic paragraphs about introducing someone. Following that, they were assigned the subject of the first task, writing an academic paragraph about a person who has an important place in their lives. Before beginning to write, the entire class went over the assignment's guidelines and was asked to think of ideas related to the subject. They were given time to think about people who had made a difference in their lives and what are the particular factors such as memories and experiences. Finally, they were guided on organizing their paragraphs properly, and then they began writing following the directions. The instructors provided assistance when necessary and reviewed the participants' writings attentively while guiding them during the practice. Upon the completion of the tasks, the instructors evaluated them and provided feedback based on the grammar, spelling, content, and organization of their paragraphs.

Week Two

The writing session in the second week involved the directions for writing a narrative paragraph. The participants were reminded of the use of language and structuring their paragraphs. Then, they were introduced to presenting events in the order in which they happened. They examined the samples of narrative paragraphs in the booklet to extend

their understanding. They were also instructed on how to identify and use time-order signals in narratives. Later on, they were assigned the second task which was writing a narrative paragraph about a memorable experience in their lives. Before composing their paragraphs, they were initially given time to think about the topic and then they took notes to order the events properly, which was followed by outlining their writing process. During the practice, the instructors supported them to make some revisions. Once the participants finished writing, the instructors assessed their paragraphs regarding the grammar, spelling, content, and organization and gave feedback on them.

Week Three

The third week's writing practice was mainly about basic paragraph structure. The chapter focused on identifying the parts of a paragraph namely a topic sentence, supporting sentences, and a concluding sentence. The participants were instructed on how to write these sentences in detail as well as the use of language and structuring their paragraphs in this context. They revised the transition signals including *first of all*, *in addition*, *for example*, *for instance*, and *in conclusion*. In addition, they read and discussed some paragraph samples, then they composed a paragraph about their favorite sport or hobby. After discussions and brainstorming, they wrote an outline of their paragraphs which included the topic sentence to express their main idea, the supporting sentences to present examples and explanations, and lastly the concluding sentence to summarize the whole paragraph. Then, they were assigned to write a paragraph considering the guidelines for the writing practice. They were provided assistance by the instructors to

revise their paragraphs throughout the task. After reviewing the writings and providing feedback on them, the instructors handed the writings back to the participants.

Week Four

In the fourth week, the participants were instructed on the process of composing a cause-and-effect paragraph. They focused on identifying and organizing causes and effects in a structured way. The participants were also provided information about the use of language and organizing their paragraphs based on this paragraph type. They were informed about the transition signals to express cause and effect relationships such as *because, since, due to, as a result, and therefore*. Additionally, they read and discussed some cause-and-effect paragraph samples, then they composed a cause-and-effect paragraph about a social issue. Following the discussions and brainstorming part, they wrote an outline of their paragraphs which included their causes and effects with supporting arguments. The final assignment was to compose a cause-and-effect paragraph regarding the directions for the writing practice. The guidance provided by the instructors helped them review their paragraphs during the process. Before the instructors delivered the writings back to the participants, they analyzed and gave feedback on their paragraphs.

Week Five

In the last week, the final writing session included instructions on composing a comparison and contrast paragraph. The objective was being able to identify and organize similarities and differences between two concepts in a structured way. In line with this objective, this process involved informing the participants about the transition signals to

express similarities and differences such as *similarly*, *likewise*, *in contrast*, *while*, and *whereas*. The final assignment was to write a comparison and contrast paragraph about education in two different countries upon spending some time reading and analyzing the samples of this paragraph type. Once they discussed and brainstormed their ideas about the topic, the participants started writing their paragraphs after forming their outlines to organize the comparisons with their supporting ideas. As a result, they followed the directions for the writing task and composed a comparison and contrast paragraph accordingly. The instructors provided guidance for them to revise their paragraphs throughout the writing assignment. After the instructors assessed their paragraphs and gave feedback based on content, organization, grammar, and lexical resources, the participants were given the tasks back to them to review.

3.4.3. Post-test Administration

In the final phase, the LAS which measures the participants' autonomy level in writing in English was once again completed by the participants so that any differences regarding their autonomy in writing after the treatment could be detected.

3.5. Data Analysis

The data of the study was analyzed using IBM SPSS Statistics 29.0 software. Initial calculations were performed to determine the highest and lowest ages of the participants as well as the mean values. The participation rates and proportions by department and gender were subsequently computed. After that, the reliability coefficients were calculated

using Cronbach's Alpha, and the varimax rotation was applied for factor analysis to present the overall variance values for both the pre-test and the post-test.

Table 3 presents the reliability coefficients, showing 0.70 for the pre-tests and 0.75 for the post-tests. The variance percentages were 72.32 for the pre-tests and 71.44 for the post-tests, indicating a satisfactory degree of reliability and validity.

Table 3. Reliability Coefficient and % of the Variance of the Pre-test and Post-test

	Reliability Coefficient (Cronbach's Alpha)	% of the Variance
Pre-tests	.70	72.32
Post-tests	.75	71.44

To ensure consistency across all scale items and accurately reflect the intended measurement outcomes, reverse coding was applied to items 9 and 14 which aligned them with the overall measurement direction of the scale. This process involved inverting the response scale for these questions so that higher scores on these items would correspond appropriately with the increased levels of the construct being measured, thus maintaining consistency across all items. In addition, non-parametric tests were utilized to assess and compare the data, as the participant size did not allow for the assumption of a normal distribution. Initially, the Wilcoxon test was applied to assess if significant differences existed in learner autonomy levels between the pre- and post-tests within the control group. This analysis was similarly performed for the experimental group to evaluate

differences resulting from the intervention. Subsequently, the Mann-Whitney U test was employed to identify any disparities in learner autonomy between the control and experimental groups.

Additionally, a focus group interview was conducted to examine the resulting data thoroughly. The interview involved eight questions and was conducted face-to-face with 12 participants—6 participants from each group—lasting 60 minutes in total. Responses from each participant were meticulously recorded and later analyzed using narrative analysis, which allowed for an in-depth exploration of the participants' stories and experiences (Riessman, 2008). The aim was to thoroughly examine views and identify distinctions between the control and experimental groups. To ensure the reliability of the findings, member checking was employed, whereby participants reviewed the interpreted data to verify accuracy and resonance with their experiences (Lincoln & Guba, 1985). Confidentiality was maintained throughout the process, with all personal information of the participants being anonymized.

4. FINDINGS

This part provides the outcomes of the data analysis conducted in the study, addressing the posed research questions. It first presents the impact of traditional reflective journals on learner autonomy. This is followed by an examination of the effects of AI-enhanced reflective journals on learner autonomy. Lastly, a comparison of the data from the control and experimental groups is provided.

4.1. Does the Use of Traditional Reflective Journals Contribute to Developing Learner Autonomy in Writing Skills among EFL Learners?

The Wilcoxon test was performed to assess the effects of traditional reflective journals on the learner autonomy of participants. Findings are shown in Table 4, which compares pre- and post-test responses through paired analysis of each survey item related to learner autonomy within the control group. As indicated in the table, only one item reached the predefined significance level of .05. The first item on the scale, which measures learners' inclination to select the most appropriate activity for learning English, showed a significance level of .05. This indicates a heightened propensity among learners to choose the best-suited activity for enhancing their English skills. The notable difference between the pre- and post-tests further suggests an increased preference for selecting the most appropriate learning activity after the intervention, with a mean rank value of 5.63.

Table 4. The Wilcoxon Test for the Control Group

Items	Ranks	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
	Negative Ranks	8 ^a	5.00	10.00	.05
1. I would like to choose the most suitable activity to help me learn English.	Positive Ranks	2 ^b	5.63	45.00	
	Ties	8 ^c			
	Total	18			

4.2. Does the Use of AI-enhanced Reflective Journals Contribute to Developing Learner Autonomy in Writing Skills among EFL Learners?

The Wilcoxon test was administered to the experimental group to assess the effects of AI-enhanced reflective journals on participants' learner autonomy. The results, shown in Table 5, are based on the paired comparison of each item in the pre and post-tests within the experimental group. According to the table, two items demonstrated significant correlations, with their significance levels at or below the designated threshold of .05. The first item, which assessed the participants' capacity to self-evaluate their English work, was recorded at .05, indicating a marked increase in their tendency towards autonomous learning. Learners notably engaged more in evaluating their work in the writing process than previously, achieving a higher mean rank of 6.83. Additionally, the other item which

was about concerns about learning English without teacher explanation had a significance level of .02. With a mean rank of 8.50 for positive ranks, learners reported feeling more independent in their learning.

Table 5. The Wilcoxon Test for the Experimental Group

Items	Ranks	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
12. I can evaluate my work in English on my own.	Negative Ranks	3 ^{ah}	5.50	8.50	.05
	Positive Ranks	9 ^{ai}	6.83	57.50	
	Ties	6 ^{aj}			
	Total	18			
14. If the teacher does not explain something English, I don't feel afraid that I will not be able to learn it.	Negative Ranks	10 ^{an}	5.75	8.50	.02
	Positive Ranks	1 ^{ao}	8.50	57.50	
	Ties	7 ^{ap}			
	Total	18			

4.3. Is there a difference between the use of traditional and AI-enhanced reflective journals regarding developing learner autonomy in writing skills among EFL learners?

The Mann-Whitney U test was applied to assess variations between the control and experimental groups. In Table 6, the mean ranks, total ranks, and significance values from the groups' initial tests are shown. The findings show that the control group had a mean rank of 17.17, while the experimental group had a mean rank of 19.83. However, the pre-test scores between the two groups did not show a significant difference, with a significance value of .44 which is much higher than the designated significance level.

Table 6. Pre-test Scores for the Control and Experimental Groups (Mann-Whitney U Test)

	Group	Mean Rank	Sum of	Asymp. Sig.
			Ranks	(2-tailed)
Pre-test	Control Group	17.17	309.00	.44
	Experimental Group	19.83	357.00	

Table 7 presents the only one item in which a significant difference was observed, specifically concerning participants' ability to identify their strengths in learning English. The control group had a mean rank of 15.03, whereas the experimental group had a higher mean rank of 21.97. The significance value recorded was .03, which is below the

predetermined significance level, a notable difference was evident between the groups regarding this item.

Table 7. The Mann-Whitney U Test for the Pre-tests of the Control and Experimental Groups

	Group	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
6. I can identify my strengths when learning English.	Control Group	18	15.03	270.50	.03
	Experimental Group	18	21.97	395.50	
	Total	36			

Table 8 displays the mean rank, sum of ranks, and significance value from the post-tests of the control and experimental groups. The results indicated a mean rank of 15.75 for the control group and 21.25 for the experimental group. Despite the mean rank values, the significance value of .11 suggests that there was no meaningful difference in the post-test scores between the two groups.

Table 8. Post-test Scores for the Control and Experimental Groups (Mann-Whitney U Test)

	Group	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
Post-test	Control Group	15.75	283.50	.11
	Experimental Group	21.25	382.50	

Table 9 displays the results for three items that showed significant correlations in the post-tests between the control and experimental groups. For the item related learners' openness to consultation while learning English, the mean ranks were 15.33 for the control group and 21.67 for the experimental group, suggesting a meaningful difference with a significance value of .04. The analysis of the item on identifying weaknesses in learning English showed mean ranks of 14.83 for the control and 22.17 for the experimental, indicating a considerable difference with a significance value of .02. Finally, the item regarding the recognition of strengths in learning English recorded mean ranks of 15.03 for the control and 21.97 for the experimental, with a significance value of .03, confirming a notable difference between the two groups.

Table 9. The Mann-Whitney U Test for the Post-tests of the Control and Experimental Groups

	Group	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
3. I would like to be consulted while learning English.	Control Group	18	15.33	276.00	.04
	Experimental Group	18	21.67	390.00	
	Total	36			
5. I can identify my weaknesses when learning English.	Control Group	18	14.83	267.00	.02
	Experimental Group	18	22.17	399.00	
	Total	36			
6. I can identify my strengths when learning English.	Control Group	18	15.03	270.50	.03
	Experimental Group	18			
	Total	36	21.97	395.50	

5. CONCLUSIONS and DISCUSSION

This section presents the conclusions and engages in a discussion about the impact of AI-enhanced reflective journals on the learner autonomy of EFL students in developing writing skills. It begins by summarizing the main conclusions drawn from the research. The results are then placed in context with prior studies in the field. Following this, targeted recommendations are provided for educators, curriculum developers, and learners. Finally, limitations and suggestions for future research are proposed.

5.1. Conclusions

In this study that investigates the impact of AI-enhanced reflective journals on the autonomy of EFL learners in developing writing skills, comparing these tools with traditional reflective journals in EFL writing courses to identify potential differences, several conclusions can be drawn from the findings of the data gathered and analyzed. First, it appears that Turkish EFL learners display a certain level of writing autonomy both before and after the implementation, with the participants experiencing only slight increases after the intervention. This indicates that the increase in learner autonomy levels is comparable regardless of the journaling method employed. Second, keeping traditional reflective journals does not significantly influence learners' autonomy in writing skills. It is seen that this type of journal leads to only minor increases in learners' autonomy, with a positive shift in their preference to choose the most suitable activity to help them learn English. This suggests that traditional reflective journals can effectively enhance learners'

decision-making autonomy in selecting activities that best suit their learning needs. However, traditional reflective journals appear to have limited influence on other aspects of learner autonomy. Similarly, the application of AI-enhanced reflective journals in teaching writing to EFL students does not influence their autonomous learning behaviors, with only modest improvements observed in their motivation to write. However, more items exhibited considerable differences, which highlights the potential for AI tools to support specific facets of autonomous learning, such as increasing learner confidence and promoting self-directed learning skills. The self-evaluation abilities of the learners showed a noticeable change, which suggests that the AI-enhanced journals may have contributed to students' ability to independently assess their writing. The improvement in self-evaluation capabilities could be attributed to the structured feedback provided by AI, which might help learners identify specific strengths and weaknesses in their writing more clearly than traditional journals. In addition, there is a substantial shift in learners' feeling afraid of not being able to learn something without the teacher's explanation, with a considerable increase in confidence among learners using AI-enhanced journals regarding their ability to understand and learn English independently, even without direct teacher explanation. This could be related to the reflective nature of the journaling process, possibly enhanced by AI's immediate feedback mechanism, which reassures students of their understanding and encourages them to tackle linguistic challenges independently. Last, compared to traditional reflective journals, AI-enhanced reflective journals seem to have more positive effects on learners' preference to be consulted during the learning process. This type of journal also helps learners identify their weaknesses more effectively

and better aids learners in recognizing their strengths. To sum up, although the adoption of AI-enhanced reflective journals in EFL writing presents certain advantages, it does not markedly elevate all levels of learner autonomy.

The insights of the focus group interview conducted with six randomly chosen participants from each group to explore and investigate the underlying reasons behind the observed results, suggest that the aforementioned findings may be influenced by certain variables. In terms of independent learning, participants who kept traditional reflective journals state that writing in a reflective journal provides them with a kind of routine that makes their learning process more consistent. According to them, one of the reasons for this is writing in a reflective journal after each task made their writing practices more planned and organized. They mention that it is helpful in terms of seeing their weaknesses in front of them so that they realize what to improve specifically regarding their writing skills. They also believe that this may be due to acquiring a critical point of view towards their writing tasks, which also influences the structure and organization of their paragraphs positively; although some of them state that this procedure is time-consuming and teacher feedback is enough to improve their paragraph writing. Similar to the aforementioned participants, those who kept AI-enhanced reflective journals state that these journals help them to be aware of their weaknesses. However, they also add that it is a useful tool to help them realize their strengths as well since the AI asks reflective questions related to the aspects that participants not only feel weak but also strong regarding their writing skills. They state that this outcome overall affects their motivation to write positively. Moreover, they believe that AI-enhanced journal writing helps them understand their

learning habits or preferences, which can be a result of the finding that the questions in these journals are personalized and addressed to individual needs and tendencies; although some of the participants also mention that AI sometimes becomes repetitive in its prompt patterns. Finally, they state that they are able to think more critically about their writing, which can be the reason for being able to recognize the differences in their writing development between their paragraphs throughout the process.

5.2. Pedagogical Implications

The conclusions of this study and prior research provide several pedagogical implications about the influence of AI-enhanced reflective journals on the autonomy of EFL learners. Essentially, the conclusions indicate that AI-enhanced reflective journals have a limited impact on developing learner autonomy. This stands in contrast to various studies that have explored the impact of AI-enhanced reflective journals on learner autonomy in EFL writing courses and found that these tools substantially enhance the autonomy of EFL learners (Wei, 2023; Abdalkader, 2023; Yan, 2023; Han & Sari, 2022; Malik et al., 2023). In other words, these studies show that AI-enhanced reflective journals contribute to greater autonomy regarding writing among EFL learners. However, the current study reveals that the application of AI-enhanced reflective journals alone does not suffice to significantly increase learner autonomy. Differences in the broad impact of AI tools may stem from variations in how AI tools are implemented (Wei, 2023). The reason may be about features of more integrated or advanced AI, or the instructional context might have been more conducive to exploiting AI's potential, leading to

significant improvements not observed in the current study. The diverse results can be ascribed to variations in the participant groups and educational contexts (Abdalkader, 2023). Research conducted in diverse cultural or educational settings, such as high schools versus colleges or different countries, can affect how learners engage with and get advantages from AI tools, thus altering the total reported efficacy. Yan (2023) and Han and Sari (2022) report more conclusive positive results, potentially attributed to their particular research methodologies, such as qualitative approaches that capture intricate user experiences or the integration of automated and human feedback. In addition, Malik et al. (2023) emphasize enhancements in domains such as grammar and essay organization, whereas the present study primarily examines the motivational and confidence factors related to autonomy. The variations in areas of emphasis may account for the contrasting findings in studies, with some reporting substantial enhancements in specific aspects of independence, while others, such as the present investigation, observe these enhancements to be moderate. Much remains to be understood about learner autonomy and AI-enhanced reflective journals in connection with the results and factors that influence learning autonomy. It is also worth noting that though the difference between keeping traditional and AI-enhanced reflective journals is insignificant, the latter has continued to manifestly improve certain aspects of learner autonomy. Introspection is one key area where AI can help in improving crucial skills as it fosters self-assessment and is a necessity for enhancing writing proficiency among other things according to studies pointed out in this paper and ongoing research. The current study supports literature which suggests that AI tools are more effective in enhancing writing skills when

they are designed based on specific learning goals (Wei, 2023; Cheng et al., 2016). These gains may not necessarily be achieved when applied to broader aspects of autonomy in general but they are expected to be strongly advantageous in some areas where such specificity matters. The results of this study support the findings of Nagata et al. (2020) and Agustini (2023), who likewise observe improvements in particular writing abilities through the use of comparable artificial intelligence techniques where instant feedback and personalized prompts were given. Such a system can help in building up task-specific learning activities that bolster self-reflection hence honing in targeted competencies. A related research provided deeper insight into how AI could be applied towards enhancing reflection among students' diaries based on its assistance system that promoted deeper analytical skills when it came to reflective writing (Cheng, 2017). Structured feedback benefits learners as it makes them evaluate their work independently, leading to self-improvement (Cheng et al., 2016). Thus, using AI-enhanced reflective journals would serve as an additional tool for enhancing learner autonomy in EFL writing. These observed alignments and misalignments can provide a better grasp of the variables influencing the impacts of AI on learner autonomy and writing skills. By comparing the outcomes of the current study with previous studies, detailed insights into how effective AI-enhanced tools are in EFL learning can be drawn, which will be further discussed in the next section.

5.3. Practical Recommendations

Based on the findings of the present study on the utilization of AI-enhanced reflective journals in EFL writing, specific recommendations can be provided to students, teachers,

curriculum developers, and policymakers. To begin with, students should set aside time to consider what they have done well and which areas they would do better after getting feedback from the AI tool backed-up sources. What makes this act very crucial is that it ensures that those new skills are fully integrated within ourselves while at the same time prompting us to make necessary changes which in turn makes us good writers in certain features consistently using AI writing tools helps them improve their abilities as writers. Their regular employment will help them include feedback incrementally, enhance their writing technique, and elevate their self-esteem concerning their capacity for effective English communication. Using AI tools enables learners to track their objectives more precisely and get individualized feedback on these objectives enhancing targeted writing skills as well as nurturing independence. In addition, teachers should take advantage of AI tools that give them immediate, tailored responses to make these tools more effective in school. By doing this, there is a possibility that we can increase student motivation and engagement in their unique learning styles and preferences thus promoting independence among learners. Teachers should be motivated to employ a blend of artificial intelligence-driven critical writing and traditional methods in their teaching such as hybrid methods. The combination of AI technology by teachers with their critical writing practices would enable students to get personalized feedback which is more organized than before leading them into better understanding hence becoming more independent learners. In terms of professional growth, teachers should receive continuous training on the proficient integration of AI tools for them to be able to improve their skills in making use of AI tools in their teaching methods. AI technologies' practical parts need to be covered by training,

ways for curriculum integration with them, and the methods for controlling and accessing their influence on students' education. When it comes to curriculum developers, they should adapt AI components to correspond with the desired learning objectives. This means that for instance, where the objective of a syllabus is to improve critical writing skills, AI should provide comments that make learners engage in critical thinking while composing texts. Through customization, the features of the AI system should be aligned with particular educational goals. The learners' educational and cultural backgrounds are important considerations to make while developing a curriculum that integrates AI tools. The AI teaching resources can be more personalized, efficient, and helpful to the learners if the developers are sensitive enough, thus making them better at enhancing their autonomy inside a classroom situation. Fulfilling these goals is impossible without understanding what learners from specific groups require and how AI solutions can be made to suit them better. Finally, policymakers should create support systems for the efficient use of AI in teaching as well as provide technical support to teachers. This entails that they organize training courses and guarantee that both tutors and learners have enough resources for effective AI-tool application. It is also necessary for them to make sure that institutions employ adaptive strategies in integrating AI-based instruments that can be customized according to various educational settings.

5.4. Limitations

There are several limitations in the current study. The study utilized a quasi-experimental design because there were certain factors in schools that prevented random

assignment of participants. There were also particular school restrictions which made it impossible to use a true experimental framework. Furthermore, the data collection of the present study was limited to a single control group and a single experimental group, employing two instruments: a background questionnaire and the LAS (Orakcı & Gelişli, 2017). Additionally, this study only involves 36 participants enrolled in an English preparatory program at an institution in Türkiye and it may limit the findings' generalizability to other locations and educational settings. The duration of the study was only five weeks; thus, a longer period might reveal different outcomes. Another constraint to mention is that the results of the study are derived just from a single AI software, hence potentially failing to accurately represent the effects of other AI tools. Moreover, the study solely examines how AI-enhanced reflective journals affected writing skills specifically connected to learner autonomy. As a result, the findings cannot be applied to overall language proficiency or other linguistic skills.

5.5. Recommendations for Further Research

This study provides a basis for future research directions. There is a strong requirement for further investigation into the effects of AI-enhanced reflective journals on the autonomy of EFL learners in improving their writing abilities to attain a deeper comprehension. First, employing qualitative approaches and various data collection technologies can lead to deeper insights into how various factors, such as perspectives, cognitive processes, experiences, and individual choices, interact with learner autonomy. Second, further research might investigate the association between learner autonomy and

writing proficiency in EFL contexts. It can specifically assess how AI-enhanced journals impact important writing elements such as content, lexical resources, organization, and language usage. This can be achieved by incorporating a wider range of writing tasks and activities. Third, conducting future studies in diverse educational settings and among various demographic criteria, such as gender, age, language competency, and technological proficiency, can contribute to a more comprehensive understanding. Lastly, it is advisable to conduct studies with larger sample sizes and longer durations to enhance the effectiveness of the findings and enable more accurate generalizations.

REFERENCES

- Abdalkader, S. M. A. (2023). *The impact of using artificial intelligence on enhancing EFL language fluency and self-regulation for the preparatory stage students in distinguished governmental language schools* [PhD thesis]. Ain Shams University.
- Agustini, N. P. O. (2023). Examining the role of ChatGPT as a learning tool in promoting students' English language learning autonomy relevant to Kurikulum Merdeka Belajar. *EDUKASIA: Jurnal Pendidikan Dan Pembelajaran*, 4(2), 921–934.
- Ahmed, S., & Ahasan, N. (2015). Dealing with writing deficiencies at tertiary level. *Procedia - Social and Behavioral Sciences*, 208, 60–67.
<https://doi.org/10.1016/j.sbspro.2015.11.180>
- Al Mahmud, A. (2013). Constructivism and reflectivism as the logical counterparts in TESOL: Learning theory versus teaching methodology. *TEFLIN Journal: A Publication on the Teaching & Learning of English*, 24(2).
- Alfalagg, A. R. (2020). Impact of teacher-student writing conferences on frequency and accuracy of using cohesive devices in EFL students' writing. *Asian-Pacific Journal of Second and Foreign Language Education*, 5(1), 1–19.
- Ali, Z. (2020). Artificial intelligence (AI): A review of its uses in language teaching and learning. *IOP Conference Series: Materials Science and Engineering*, 769(1), 1–6.
<https://doi.org/10.1088/1757-899X/769/1/012043>
- Al-Shboul, O. K., Rababah, L. M., Banikalef, A. A., & Mehawesh, M. I. (2023). Role of learner autonomy in intrinsic motivation in EFL writing. *International Journal of*

- English Language and Literature Studies*, 12(2), 107–116.
<https://doi.org/10.55493/5019.v12i2.4756>
- An, X., Chai, C. S., Li, Y., Zhou, Y., Shen, X., Zheng, C., & Chen, M. (2023). Modeling English teachers' behavioral intention to use artificial intelligence in middle schools. *Education and Information Technologies*, 28(5), 5187–5208.
<https://doi.org/10.1007/s10639-022-11286-z>
- Aydin, S. (2010). EFL writers' perceptions of portfolio keeping. *Assessing Writing*, 15(3), 194–203.
- Aygün, S., & Aydın, S. (2016). The use of e-portfolios in EFL writing: A review of literature. *ELT Research Journal*, 5(3), 205–217.
- Baker, T., Smith, L., & Anissa, N. (2019). *Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges*.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26.
- Baskara, F. R. (2023). Integrating ChatGPT into EFL writing instruction: Benefits and challenges. *International Journal of Education and Learning*, 5(1), 44–55.
- Bello, T. (1997). Writing topics for adult ESL students. *The 31st Annual Teachers of English to Speakers of Other Languages Convention*.

- Benson, P. (1997). The philosophy and politics of learner autonomy. In P. Benson & P. Voller (Eds.), *Autonomy and independence in language learning* (pp. 18–34). Longman.
- Benson, P. (2001). *Autonomy in language learning*. Longman.
- Benson, P. (2011). *Teaching and researching autonomy in language learning*. Pearson Education Limited.
- Black, P., Geng, G., Smith, P., Budd, Y., & Disney, L. (2019). Reflections on reflections. In *Reflective practice in teaching* (pp. 267–275). Springer Singapore. https://doi.org/10.1007/978-981-13-9475-1_40
- Borg, S., & Al-Busaidi, S. (2012). Teachers' beliefs and practices regarding learner autonomy. *ELT Journal*, 66(3), 283–292. <https://doi.org/10.1093/elt/ccr065>
- Boscolo, P., & Gelati, C. (2007). Best practices in promoting motivation for writing. In S. Graham, C. A. Macarthur, & J. Fitzgerald (Eds.), *Best practices in writing instruction* (pp. 202–221). The Guilford Press.
- Boud, D. (2001). Using journal writing to enhance reflective practice. *New Directions for Adult and Continuing Education*, 2001(90), 9–18.
- Boud, D., Keogh, R., & Walker, D. (1985). *Reflection: Turning experience into learning*. Kogan Page.
- Boyd, E. M., & Fales, A. W. (1983). Reflective learning: Key to learning from experience. *Journal of Humanistic Psychology*, 23(2), 99–117.

- Brown, G., & Yule, G. (1983). *Teaching the spoken language* (Vol. 2). Cambridge University Press.
- Byrnes, H., & Manchón, R. M. (2014). Insights from and for L2 writing: An introduction. In *Task-based language learning: Insights from and for L2 writing* (pp. 1–23). John Benjamins.
- Çakıcı, D. (2015). Autonomy in language teaching and learning process. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 16(1), 31–42.
- Celce-Murcia, M. (2001). Language teaching approaches: An overview. *Teaching English as a Second or Foreign Language*, 2(1), 3–10.
- Çelik, Ş. S., & Aydın, S. (2021). Wiki effect on EFL writing motivation: An experimental study. *Language and Technology*, 3(1), 32–47.
- Chang, T.-S., Li, Y., Huang, H.-W., & Whitfield, B. (2021). Exploring EFL students' writing performance and their acceptance of AI-based automated writing feedback. *2021 2nd International Conference on Education Development and Studies*, 31–35. <https://doi.org/10.1145/3459043.3459065>
- Chatib, M., Haryanto, E., Lailiyah, S., & Isnaini, H. (2021). Using chatbot to promote students' autonomy in English learning during the Covid-19 pandemic. *International Journal of Emerging Technologies in Learning*, 16(12), 107–116.

- Chaudhari, S., More, P., Bhadak, S., Chaudhari, S., & Gawali, T. (2020). A survey on applications of artificial intelligence for enhancement in learning experience. *Asian Journal of Convergence in Technology*, 6(3), 86–89.
- Chen, M.-R. A., Hwang, G.-J., Majumdar, R., Toyokawa, Y., & Ogata, H. (2021). Research trends in the use of E-books in English as a foreign language (EFL) education from 2011 to 2020: A bibliometric and content analysis. *Interactive Learning Environments*, 1–17. <https://doi.org/10.1080/10494820.2021.1888755>
- Cheng, G. (2017). The impact of online automated feedback on students' reflective journal writing in an EFL course. *The Internet and Higher Education*, 34, 18–27. <https://doi.org/10.1016/j.iheduc.2017.04.002>
- Cheng, G., Law, E., & Wong, T.-L. (2016). Investigating effects of automated feedback on EFL students' reflective learning skills. *2016 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE)*, 226–230. <https://doi.org/10.1109/TALE.2016.7851798>
- Cook, V. (2014). How do people learn to write in a second language? In *Key topics in second language education* (pp. 73–88). MM Textbooks.
- Cooper, M. M. (1986). The ecology of writing. *College English*, 48(4), 364–375.
- Cotterall, S. (1995). Readiness for autonomy: Investigating learner beliefs. *System*, 23(2), 195–205. [https://doi.org/10.1016/0346-251X\(95\)00008-8](https://doi.org/10.1016/0346-251X(95)00008-8)

- Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th ed.). Sage.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- Cumming, A. (1998). Theoretical perspectives on writing. *Annual Review of Applied Linguistics*, 18, 61–78. <https://doi.org/10.1017/S0267190500003482>
- Dam, L. (1995). *Learner autonomy: From theory to classroom practice* (Vol. 3). Authentik Language Learning Resources.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–339.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003.
- Deng, M. (2022). Application of artificial intelligence technology in college students' foreign language learning. *2022 IEEE 5th Eurasian Conference on Educational Innovation (ECEI)*, 302–304. <https://doi.org/10.1109/ECEI53102.2022.9829486>
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. D.C. Heath & Co Publishers.
- Dickinson, L. (1987). *Self-instruction in language learning*. Cambridge University Press.

- Dodigovic, M. (2007). Artificial intelligence and second language learning: An efficient approach to error remediation. *Language Awareness*, 16(2), 99–113.
<https://doi.org/10.2167/la416.0>
- Duong, T. M., & Seepho, S. (2017). Implementing a portfolio-based learner autonomy development model in an EFL writing course. *Suranaree Journal of Social Science*, 11(1), 29–46.
- Dyment, J. E., & O’Connell, T. S. (2011). Assessing the quality of reflection in student journals: A review of the research. *Teaching in Higher Education*, 16(1), 81–97.
<https://doi.org/10.1080/13562517.2010.507308>
- Dyson, A. H., & Freedman, S. W. (1991). *Critical challenges for research on writing and literacy: 1990-1995. Technical report no. 1-B*.
- Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Orienta-Kosultit Oy.
- Epp, C. D. (2020). Using analytics and artificial intelligence to support language learner decision making. *Harnessing the Potentials of Technology to Support Self-Directed Language Learning in Online Learning Settings*.
- Farahat, T. (2012). Applying the technology acceptance model to online learning in the Egyptian universities. *Procedia - Social and Behavioral Sciences*, 64, 95–104.
<https://doi.org/10.1016/j.sbspro.2012.11.012>

- Fisher, K. (2003). Demystifying critical reflection: Defining criteria for assessment. *Higher Education Research & Development*, 22(3), 313–325.
<https://doi.org/10.1080/0729436032000145167>
- Fitria, T. N. (2021). Artificial intelligence (AI) in education: Using AI tools for teaching and learning process. *Prosiding Seminar Nasional & Call for Paper STIE AAS*, 134–147.
- Flower, L. (1994). *The construction of negotiated meaning: A social cognitive theory of writing*. SIU Press.
- Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365–387.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). Mc Graw-Hill.
- Fryer, L. K., Nakao, K., & Thompson, A. (2019). Chatbot learning partners: Connecting learning experiences, interest and competence. *Computers in Human Behavior*, 93, 279–289. <https://doi.org/10.1016/j.chb.2018.12.023>
- Gibson, A., Kitto, K., & Bruza, P. (2016). Towards the discovery of learner metacognition from reflective writing. *Journal of Learning Analytics*, 3(2), 22–36.
<https://doi.org/10.18608/jla.2016.32.3>
- Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. *Language Learning & Technology*, 26(2), 5–24.

- Grabe, W., & Kaplan, R. B. (1996). *Theory and practice of writing*. Pearson Education Limited.
- Gray, A. (1997). Constructivist teaching and learning. *SSTA Research Centre Report*, 97(07).
- Gultom, U. A., Purbani, W., & Triastuti, A. (2022). The relationship between learner autonomy and students' writing skills. *Journal of Hunan University Natural Sciences*, 49(10), 1–7. <https://doi.org/10.55463/issn.1674-2974.49.10.1>
- Guo, K., Bussey, F., & Adachi, C. (2020). Digital learning across cultures: An account of activity theory. *Intercultural Education*, 31(4), 447–461. <https://doi.org/10.1080/14675986.2020.1747259>
- Hamp-Lyons, L., & Heasley, B. (2006). *Study writing: A course in written English for academic purposes*. Cambridge University Press.
- Han, T., & Sari, E. (2022). An investigation on the use of automated feedback in Turkish EFL students' writing classes. *Computer Assisted Language Learning*, 1–24. <https://doi.org/10.1080/09588221.2022.2067179>
- Harmer, J. (2007). *How to teach English*. Pearson Education Limited.
- Harmer, J. (2015). *The practice of English language teaching* (5th ed.). Pearson Education Limited.

- Hasan, M. K., & Akhand, M. M. (2010). Approaches to writing in EFL/ESL context: Balancing product and process in writing class at tertiary level. *Journal of NELTA*, 15(1–2), 77–88.
- Hein, G. E. (1991). *Constructivist learning theory*. Institute for Learning. Retrieved on January 3, 2024, from [Http://Www.Exploratorium.Edu/IFI/Resources/Constructivistlearning.Html](http://www.Exploratorium.Edu/IFI/Resources/Constructivistlearning.Html).
- Hiemstra, R. (2001). Uses and benefits of journal writing. In L. M. English & M. A. Gillen (Eds.), *Promoting journal writing in adult education* (pp. 19–26). Jossey-Bass.
- Hobbs, V. (2007). Faking it or hating it: Can reflective practice be forced? *Reflective Practice*, 8(3), 405–417. <https://doi.org/10.1080/14623940701425063>
- Hodges, T. S. (2017). Theoretically speaking: An examination of four theories and how they support writing in the classroom. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 90(4), 139–146. <https://doi.org/10.1080/00098655.2017.1326228>
- Holec, H. (1981). *Autonomy and foreign language learning*. Pergamon.
- Holliday, A. (2003). Social autonomy: Addressing the dangers of culturism in TESOL. In *Learner autonomy across cultures: Language education perspectives* (pp. 110–126). Palgrave Macmillan UK.

- Horowitz, D. M. (1986). Two commentaries on Daniel M. Horowitz's "Process, not product: less than meets the eye". The author responds to Liebman-Kleine. *TESOL Quarterly*, 20(4), 788–790. <https://doi.org/10.2307/3586532>
- Hwang, W.-Y., Nurtantyana, R., Purba, S. W. D., Hariyanti, U., Indrihapsari, Y., & Surjono, H. D. (2023). AI and recognition technologies to facilitate English as foreign language writing for supporting personalization and contextualization in authentic contexts. *Journal of Educational Computing Research*, 61(5), 1008–1035. <https://doi.org/10.1177/07356331221137253>
- Hyland, K. (2003). *Second language writing*. Cambridge University Press.
- Jafarigohar, M., & Mortazavi, M. (2013). The effects of different types of reflective journal writing on learners' self-regulated learning. *Iranian Journal of Applied Linguistics (IJAL)*, 16(1), 59–78.
- Jasper, M. (2003). *Beginning reflective practice*. Nelson Thornes.
- Javadi-Safa, A. (2018). A brief overview of key issues in second language writing teaching and research. *International Journal of Education and Literacy Studies*, 6(2), 12. <https://doi.org/10.7575/aiac.ijels.v.6n.2p.15>
- Javed, M., Juan, W. X., & Nazli, S. (2013). A study of students' assessment in writing skills of the English language. *International Journal of Instruction*, 6(2), 129–144.

- Jonassen, D. H., & Rohrer-Murphy, L. (1999). Activity theory as a framework for designing constructivist learning environments. *Educational Technology Research and Development*, 47(1), 61–79.
- Joshi, K. R. (2011). Learner perceptions and teacher beliefs about learner autonomy in language learnin. *Journal of NELTA*, 16(1–2), 12–29.
- Kamberi, L. (2013). Promoting learner autonomy in foreign language learning by using student journals. *Proceeding of The First International Interdisciplinary Conference*, 408–412.
- Kellogg, R. T. (2008). Training writing skills: A cognitive developmental perspective . *Journal of Writing Research*, 1(1), 1–26.
- Kember, D., Jones, A., Loke, A., McKay, J., Sinclair, K., Tse, H., Webb, C., Wong, F., Wong, M., & Yeung, E. (1999). Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow. *International Journal of Lifelong Education*, 18(1), 18–30.
<https://doi.org/10.1080/026013799293928>
- Kerka, S. (2002). *Journal writing as an adult learning tool*.
- Killon, J. P., & Todnem, G. R. (1991). A process of personal theory building. *Educational Leadership*, 48(6), 14–16.

- Kim, Y.-S. G., & Park, S.-H. (2019). Unpacking pathways using the direct and indirect effects model of writing (DIEW) and the contributions of higher order cognitive skills to writing. *Reading and Writing*, 32(5), 1319–1343.
- Kohonen, V. (2001). Towards experiential foreign language education. In V. Kohonen, R. Jaatinen, P. Kaikkonen, & J. Lehtovaara (Eds.), *Experiential learning in foreign language education*. Pearson Education.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Prentice-Hall.
- Kroll, B. (2001). Considerations for teaching an ESL/EFL writing course. In M. Celce Murcia (Ed.), *Teaching English as a second or foreign language* (3rd ed., pp. 219–232). Heinle and Heinle.
- Kumaravadivelu, B. (2003). *Beyond methods: Macrostrategies for language teaching*. Yale University Press.
- Kwon, S. K., Shin, D., & Lee, Y. (2023). The application of chatbot as an L2 writing practice tool . *Language Learning & Technology* , 27(1), 1–19.
- Le, H. T. Q., & Nguyen, T. H. (2022). A study on non-English major students' learner autonomy: Difficulties and solutions. *International Journal of TESOL & Education*, 2(3), 197–207. <https://doi.org/10.54855/ijte.222313>

- Lee, L. (2019). Review of autonomous language learning with technology: Beyond the classroom. *Language Learning & Technology*, 23(1), 40–43.
<https://doi.org/10.5040/9781474240444>
- Lightbown, P. M., & Spada, N. (2013). *How languages are learned* (4th ed.). Oxford University Press.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Little, D. (1990). Autonomy in language learning. In I. Gathercole (Ed.), *Autonomy in language learning* (pp. 7–15). CILT.
- Little, D. (1991). *Learner autonomy: Definitions, issues and problems*. Authentik.
- Littlejohn, A. (1985). Learner choice in language study. *ELT Journal*, 39(4), 253–261.
- Littlewood, W. (1996). “Autonomy”: An anatomy and a framework. *System*, 24(4), 427–435.
- Littlewood, W. (1997). Self-access work and curriculum ideologies. In P. Benson & P. Voller (Eds.), *Autonomy and independence in language learning* (pp. 181–191). Longman.
- Liu, B., Mazumder, S., Robertson, E., & Grigsby, S. (2023). AI autonomy: Self-initiated open-world continual learning and adaptation. *AI Magazine*, 44(2), 185–199.
<https://doi.org/10.1002/aaai.12087>

- Lutskovskaia, L., Shoustikova, T., & Udina, N. (2019). AI-based tools for foreign language training: Opinions from different audiences. *Journal of Critical Reviews*, 6(6), 404–409.
- Malik, A. R., Pratiwi, Y., Andajani, K., Numertayasa, I. W., Suharti, S., Darwis, A., & Marzuki. (2023). Exploring artificial intelligence in academic essay: Higher education student's perspective. *International Journal of Educational Research Open*, 5, 1–11. <https://doi.org/10.1016/j.ijedro.2023.100296>
- Mandal, R. R. (2009). Cooperative learning strategies to enhance writing skill. *The Modern Journal of Applied Linguistics*, 1(2), 95–102.
- Maneehaet, S., & Wannapiroon, P. (2019). A digital learning ecosystem with artificial intelligence for smart learning. *Journal of Education Naresuan University*, 21(2), 359–373.
- Marlina, R., & Giri, R. A. (2014). *The pedagogy of English as an international language: Perspectives from scholars, teachers, and students* (Vol. 1). Springer . <https://doi.org/10.1007/978-3-319-06127-6>
- Mohamed, M., & Zouaoui, M. (2014). EFL writing hindrances and challenges: The case of second year students of English at Djillali Liabes. *Journal of Educational and Social Research*, 4(3), 149–156. <https://doi.org/10.5901/jesr.2014.v4n3p149>
- Moon, J. (1999). *Reflection in learning and professional development*. Kogan Page.

- Moon, J. (2004). *Reflection in learning and professional development: Theory and practice*. Kogan Page.
- Mukhallafi, T. R. A. (2020). Using artificial intelligence for developing English language teaching/learning: An analytical study from university students' perspective. *International Journal of English Linguistics*, 10(6), 40.
- Mustaque, S. (2014). Writing problems among the tertiary level students in Bangladesh: A study in Chittagong Region. *Language in India*, 14(1), 327–391.
- Nagata, R., Hashiguchi, T., & Sadoun, D. (2020). Is the simplest chatbot effective in English writing learning assistance? In *Computational linguistics* (pp. 245–256). https://doi.org/10.1007/978-981-15-6168-9_21
- Nazari, N., Shabbir, M. S., & Setiawan, R. (2021). Application of artificial intelligence powered digital writing assistant in higher education: Randomized controlled trial. *Heliyon*, 7(5), 1–9. <https://doi.org/10.1016/j.heliyon.2021.e07014>
- Nguyen, L. T. C., & Gu, Y. (2013). Strategy-based instruction: A learner-focused approach to developing learner autonomy. *Language Teaching Research*, 17(1), 9–30. <https://doi.org/10.1177/1362168812457528>
- Nong, L., Liu, G., & Tan, C. (2021). An empirical study on the implementation of AI assisted language teaching for improving learner's learning ability. 2021 *Tenth International Conference of Educational Innovation through Technology (EITT)*, 215–221. <https://doi.org/10.1109/EITT53287.2021.00050>

- Nunan, D. (1989). *Designing tasks for the communicative classroom*. Cambridge University Press.
- Nunan, T. (2000). Exploring the concept of flexibility. In V. Jakupiec & J. Garrick (Eds.), *Flexible learning, human resource and organizational development: Putting theory to work* (pp. 47–66). Routledge.
- Okonkwo, U. (2011). Computer assisted language learning (CALL) software: Evaluation of its influence in a language learning process. *UJAH: Unizik Journal of Arts and Humanities*, 12(1), 76–89. <https://doi.org/10.4314/ujah.v12i1.4>
- Orakcı, Ş., & Gelişli, Y. (2017). Learner autonomy scale: A scale development study. *Malaysian Online Journal of Educational Sciences*, 5(4), 25–35.
- Otienoh, R. (2009). Feedback on teachers' journal entries: A blessing or a curse? *Reflective Practice*, 11(2), 143–156. <https://doi.org/10.1080/14623941003665877>
- Oxford, R. (2003). Toward a more systematic model of L2 learner autonomy. In P. David & R. C. Smith (Eds.), *Learner autonomy across cultures: Language education perspectives* (pp. 75–91). Palgrave Macmillan.
- Özdemir, E. (2015). *The effect of the use of blogs on motivation in EFL writing* [Master's thesis]. Balıkesir Üniversitesi.
- Pardo, A., Jovanovic, J., Dawson, S., Gašević, D., & Mirriahi, N. (2019). Using learning analytics to scale the provision of personalised feedback. *British Journal of Educational Technology*, 50(1), 128–138. <https://doi.org/10.1111/bjet.12592>

- Radford, A., Wu, J., Child, R., Luan, D., Amodei, D., & Sutskever, I. (2019). Language models are unsupervised multitask learners. *OpenAI Blog*, 1(8), 9.
- Raimes, A. (1983). *Techniques in teaching writing*. Oxford University Press.
- Raimes, A. (1985). What unskilled ESL students do as they write: A classroom study of composing. *TESOL Quarterly*, 19(2), 229–258.
- Raimes, A. (1991). Out of the woods: Emerging traditions in the teaching of writing. *TESOL Quarterly*, 25(3), 407–430.
- Reppen, R. (2002). A genre-based approach to content writing instruction. In J. C. Richards & W. A. Renandya (Eds.), *Methodology in language teaching: An Anthology of current practice* (pp. 321–327). Cambridge University Press.
- Richards, J. C. (1990). *The language teaching matrix*. Cambridge University Press.
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Sage.
- Rochma, A. F., & Triyono, S. (2019). Auto-mobile language learning: Autonomous language learning based on the practicality of mobile applications. *International Journal of Pedagogy and Teacher Education*, 3(2), 117–128.
- Rogers, C. (1961). *On becoming a person*. Houghton Mifflin.
- Rogers, C. (1969). *Freedom to learn*. Charles E. Merrill.
- Russel, S. J., & Norvig, P. (2010). *Artificial intelligence: A modern approach* (3rd ed.). Pearson Education.

- Sandhu, N., & Gide, E. (2019). Adaption of AI chatbots to enhance student learning experience in higher education in India. *International Conference on International Technology Based Higher Education in India (ITHET)*.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.
- Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.
- Scrivener, J. (2011). *Learning teaching*. Macmillan Education.
- Selinger, H. W., & Shohamy, E. (1989). *Second language research methods*. Oxford University Press.
- Selvaraj, M., & Aziz, A. A. (2019). Systematic review: Approaches in teaching writing skill in ESL classrooms. *International Journal of Academic Research in Progressive Education and Development*, 8(4), 450–473. <https://doi.org/10.6007/IJARPED/v8-i4/6564>
- Şener, B., & Mede, E. (2023). Promoting learner autonomy and improving reflective thinking skills through reflective practice and collaborative learning. *Innovation in Language Learning and Teaching*, 17(2), 364–379. <https://doi.org/10.1080/17501229.2022.2047694>

- Sharma, R. C., & Sharma, Y. (2022). Augmenting learning through virtual reality applications in education. *Tenth Pan-Commonwealth Forum on Open Learning*, 1–6. <https://doi.org/10.56059/pcf10.7986>
- Sheerin, S. (1997). An exploration of the relationship between self-access and independent learning. In P. Benson & P. Voller (Eds.), *Autonomy and Independence in language learning*. Longman.
- Smith, R. (2003). Pedagogy for autonomy as (becoming-) appropriate methodology. In D. Palfreyman & R. Smith (Eds.), *Learner autonomy across cultures: Language education perspectives* (pp. 129–146). Palgrave Macmillan.
- Sokolik, M. (2003). Writing. In D. Nunan (Ed.), *Practical English language teaching* (pp. 87–108). McGraw-Hill/Contemporary.
- Steele, V. (1992). *Product and process writing: A comparison*. Rowley: Newbury House.
- Sudirman, A., Gemilang, A. V., & Kristanto, T. M. A. (2021). The power of reflective journal writing for university students from the EFL perspective. *Studies in English Language and Education*, 8(3), 1061–1079.
- Sumakul, D. T. Y. G., Hamied, F. A., & Sukyadi, D. (2022). Students' perceptions of the use of AI in a writing class. *67th TEFLIN International Virtual Conference & The 9th ICOELT 2021*, 52–57. <https://doi.org/10.2991/assehr.k.220201.009>
- Susser, B. (1994). Process approaches in ESL/EFL writing instruction. *Journal of Second Language Writing*, 3(1), 31–47.

- Taggart, G. L., & Wilson, A. P. (1998). *Promoting reflective thinking in teachers: 44 action strategies*. Corwin Press, Inc.
- Tahmasbi, S., Karimnia, S., & Rahimi, A. (2022). A combination of action research and reflective journal writing in an English as a foreign language class: Learners' psychological point of views and their grammar use in writing. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.810775>
- Tajmirriahi, T., & Rezvani, E. (2021). Learner autonomy in L2 writing: The role of academic self-concept and academic achievement. *Education Research International*, 2021, 1–10. <https://doi.org/10.1155/2021/6074039>
- Tang, J., & Hai, L. (2021). Construction and exploration of an intelligent evaluation system for educational APP through artificial intelligence technology. *International Journal of Emerging Technologies in Learning (IJET)*, 16(5), 17–31. <https://doi.org/10.3991/ijet.v16i05.20293>
- Thanasoulas, D. (2000). What is learner autonomy and how can it be fostered? *The Internet TESL Journal*, 6(11), 37–48.
- Thorpe, K. (2004). Reflective learning journals: From concept to practice. *Reflective Practice*, 5(3), 327–343. <https://doi.org/10.1080/1462394042000270655>
- Valli, L. (1997). Listening to other voices: A description of teacher reflection in the United States. *Peabody Journal of Education*, 72(1), 67–88.

- Van Esch, K., & St.John, O. (2003). *A framework for freedom: Learner autonomy in foreign language teacher education*. Peter Lang.
- Varner, D., & Peck, S. R. (2003). Learning from learning journals: The benefits and challenges of using learning journal assignments. *Journal of Management Education*, 27(1), 52–77.
- Vygotsky, L. (1978). *Mind in society: The development of higher mental processes*. Harvard University Press.
- Wang, M. C., & Peverly, S. T. (1986). The self-instructive process in learning contexts. *Contemporary Educational Psychology*, 11, 370–404.
- Wang, Z. (2020). Computer-assisted EFL writing and evaluations based on artificial intelligence: A case from a college reading and writing course. *Library Hi Tech*, 40(1), 80–97. <https://doi.org/10.1108/LHT-05-2020-0113>
- Warshaw, P. R., & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. *Journal of Experimental Social Psychology*, 21(3), 213–228.
- Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, 1–14. <https://doi.org/10.3389/fpsyg.2023.1261955>
- Wenden, A. (1991). *Learner strategies for learner autonomy*. Prentice Hall.
- White, R., & Arndt, V. (1991). *Process writing*. Addison Wesley Longman Ltd.

- Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, 28(11), 1–25. <https://doi.org/10.1007/s10639-023-11742-4>
- Yang, H., & Kyun, S. (2022). The current research trend of artificial intelligence in language learning: A systematic empirical literature review from an activity theory perspective. *Australasian Journal of Educational Technology*, 38(5), 180–210. <https://doi.org/10.14742/ajet.7492>
- Yeung, M. (2016). Exploring the construct of learner autonomy in writing: The roles of motivation and the teacher. *English Language Teaching*, 9(8), 122. <https://doi.org/10.5539/elt.v9n8p122>
- Yildiz, Y., & Yucedal, H. M. (2020). Learner autonomy: A central theme in language learning. *International Journal of Social Sciences and Educational Studies*, 7(3), 208–212. <https://doi.org/10.23918/ijsses.v7i3p208>
- Zamel, V. (1982). Writing: The process of discovering meaning. *TESOL Quarterly*, 16(2), 195–209. <https://doi.org/10.2307/3586792>
- Zamel, V. (1983). The composing processes of advanced ESL students: Six case studies. *TESOL Quarterly*, 17(2), 165–187. <https://doi.org/10.2307/3586647>
- Zamel, V. (1987). Recent research on writing pedagogy. *TESOL Quarterly*, 21(4), 697–715.

- Zhang, Y., Li, M., Chieh, Y., & Han, S. (2022). On a path to becoming more self-regulated: Reflective journals' impact on Chinese English as a foreign language students' self-regulated writing strategy use. *Frontiers in Psychology*, 13, 1–16. <https://doi.org/10.3389/fpsyg.2022.1042031>
- Zhao, X. (2022). Leveraging artificial intelligence (AI) technology for English writing: Introducing Wordtune as a digital writing assistant for EFL writers. *RELC Journal*, 1–5. <https://doi.org/10.1177/00336882221094089>
- Zheng, W., Cheng, H., Yu, J. X., Zou, L., & Zhao, K. (2019). Interactive natural language question answering over knowledge graphs. *Information Sciences*, 481, 141–159. <https://doi.org/10.1016/j.ins.2018.12.032>
- Zheng, X., Kim, H., Lai, W., & Hwang, G. (2020). Cognitive regulations in ICT-supported flipped classroom interactions: An activity theory perspective. *British Journal of Educational Technology*, 51(1), 103–130. <https://doi.org/10.1111/bjet.12763>
- Zhu, A. (2020). Application of AI identification technology in foreign language education. *2020 International Conference on Artificial Intelligence and Education (ICAIE)*, 71–75. <https://doi.org/10.1109/ICAIE50891.2020.00024>
- Zou, B., Liviero, S., Hao, M., & Wei, C. (2020). Artificial intelligence technology for EAP speaking skills: Student perceptions of opportunities and challenges. In *Technology and the Psychology of Second Language Learners and Users* (pp. 433–463). https://doi.org/10.1007/978-3-030-34212-8_17

Appendix A

Demographic Information Questionnaire

Sayın katılımcı,

Yapay zeka destekli yansıtıcı günlükler aracılığıyla yazma becerilerini geliştirmek için öğrenen özerkliğini güçlendirmeye odaklanan çevrimiçi anketimize katılmaya davetlisiniz. Katılımınız tamamen gönüllülük esasına dayanmaktadır. Sağlanan verilerin tarafınızdan verilen bilgiler gizli tutulacak ve sadece bilimsel amaçlar için kullanılacaktır. Çalışma iki aşamadan oluşmaktadır (Kişisel Bilgiler Anketi ve Özerklik Ölçeği) ve doldurulması yaklaşık 10 dakika sürmektedir.

Katılımınız için teşekkür ederiz.

Sena Könez

İstanbul Medeniyet Üniversitesi

1. Okul numaranızın son altı hanesi:
2. Cinsiyetiniz:
3. Yaşınız:
4. Bölümünüz:
5. İngilizce yeterlilik seviyeniz:

Learner Autonomy Scale

Sıra	İfadeler	Hiç Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen katılıyorum
1	İngilizce öğrenmemi sağlayacak en uygun aktiviteyi seçmek isterim.	①	②	③	④	⑤
2	İngilizce öğrenirken sorumluluk almak isterim.	①	②	③	④	⑤
3	İngilizce öğrenirken benim görüşlerimin alınmasını isterim	①	②	③	④	⑤
4	İngilizce dersinde öğretilecek konularda söz sahibi olmak isterim	①	②	③	④	⑤
5	İngilizce öğrenirken zayıf taraflarımı tespit edebilirim.	①	②	③	④	⑤
6	İngilizce öğrenirken güçlü taraflarımı tespit edebilirim.	①	②	③	④	⑤
7	İngilizce derslerimle ilgili video/CD' leri sınıf dışında kullanmak isterim.	①	②	③	④	⑤
8	İngilizce iletişim kurmak için risk almayı severim.	①	②	③	④	⑤
9	İngilizceyi sadece öğretmenin yardımıyla öğrenebilirim.	①	②	③	④	⑤
10	Seviyeme göre yazılmış İngilizce kitapları kendi isteğimle okurum.	①	②	③	④	⑤
11	Kendi öğrenme ihtiyaçlarımı belirleyebilirim.	①	②	③	④	⑤
12	İngilizcede yaptığım çalışmalarımı kendim değerlendirebilirim.	①	②	③	④	⑤
13	Yapılan aktivitelerde bana da seçim hakkı verilmesini isterim.	①	②	③	④	⑤
14	İngilizce bir konuyu öğretmen anlatmazsa, onu öğrenemeyeceğim diye korkarım.	①	②	③	④	⑤

Appendix B

The Ethics Committee Approval



T.C.
HALIÇ ÜNİVERSİTESİ
SOSYAL ve BEŞERİ BİLİMLER ARAŞTIRMALARI ETİK KURULU

Tarih: 01.02.2024

Sayı: 02

Konu: Etik Kurulu İzni

Sayın Sena KÖNEZ

Yapmış olduğunuz başvuru **SOSYAL ve BEŞERİ BİLİMLER ARAŞTIRMALARI ETİK KURULU** tarafından incelenmiş beraber planladığınız/planlamış olduğunuz *“Yapay Zeka Destekli Yansıtıcı Günlükler Aracılığıyla Yazma Becerilerinin Geliştirilmesi için Öğrenen Özerkliğinin Güçlendirilmesi (Empowering Learner Autonomy for Developing Writing Skills Through AI-Enhanced Reflective Journals)”* başlıklı çalışmanız kurulumuzun 01.02.2024 tarihli toplantısında etik yönden uygun bulunmuştur.

Bilgilerinize sunarım.


Etik kurul başkanının adı
Zeynep Aslı ALICI
Etik Kurulu Başkanı

Appendix C

The Wilcoxon Test Results for the Control Group

Items	Ranks	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
1. İngilizce öğrenmemi sağlayacak en uygun aktiviteyi seçmek isterim.	Negative Ranks	8 ^a	5.00	10.00	.05
	Positive Ranks	2 ^b	5.63	45.00	
	Ties	8 ^c			
	Total	18			
2. İngilizce öğrenirken sorumluluk almak isterim.	Negative Ranks	3 ^d	4.00	12.00	.70
	Positive Ranks	4 ^e	4.00	16.00	
	Ties	11 ^f			
	Total	18			
3. İngilizce öğrenirken benim görüşlerimin alınmasını isterim.	Negative Ranks	4 ^g	3.00	12.00	.73
	Positive Ranks	2 ^h	4.50	9.00	
	Ties	12 ⁱ			
	Total	18			
4. İngilizce dersinde öğretilcek konularda söz sahibi olmak isterim.	Negative Ranks	3 ^j	6.00	18.00	.07
	Positive Ranks	9 ^k	6.67	60.00	
	Ties	6 ^l			
	Total	18			
5. İngilizce öğrenirken zayıf taraflarımı tespit edebilirim.	Negative Ranks	5 ^m	3.80	19.00	.06
	Positive Ranks	1 ⁿ	2.00	2.00	
	Ties	12 ^o			
	Total	18			
	Negative Ranks	4 ^p	6.00	24.00	.71

6. İngilizce öğrenirken güçlü taraflarımı tespit edebilirim.	Positive Ranks	6 ^q	5.17	31.00	
	Ties	8 ^r			
	Total	18			
7. İngilizce derslerimle ilgili video/CD' leri sınıf dışında kullanmak isterim.	Negative Ranks	4 ^s	6.25	25.00	.75
	Positive Ranks	5 ^t	4.00	20.00	
	Ties	9 ^u			
	Total	18			
8. İngilizce iletişim kurmak için risk almayı severim.	Negative Ranks	7 ^v	6.57	46.00	.56
	Positive Ranks	5 ^w	6.40	32.00	
	Ties	6 ^x			
	Total	18			
9. İngilizceyi sadece öğretmenin yardımıyla öğrenebilirim.	Negative Ranks	5 ^y	3.60	18.00	.09
	Positive Ranks	1 ^z	3.00	3.00	
	Ties	12 ^{aa}			
	Total	18			
10. Seviyeme göre yazılmış İngilizce kitapları kendi isteğimle okurum.	Negative Ranks	5 ^{ab}	8.20	41.00	.87
	Positive Ranks	7 ^{ac}	5.29	37.00	
	Ties	6 ^{ad}			
	Total	18			
11. Kendi öğrenme ihtiyaçlarımı belirleyebilirim.	Negative Ranks	6 ^{ae}	5.25	31.50	.24
	Positive Ranks	3 ^{af}	4.50	13.50	
	Ties	9 ^{ag}			
	Total	18			
	Negative Ranks	7 ^{ah}	5.21	36.50	.33
	Positive Ranks	3 ^{ai}	6.17	18.50	

12. İngilizcede yaptığım çalışmalarımı kendim değerlendirebilirim.	Ties	8 ^{aj}			
	Total	18			
13. Yapılan aktivitelerde bana da seçim hakkı verilmesini isterim.	Negative Ranks	11 ^{ak}	6.91	76.00	.12
	Positive Ranks	3 ^{al}	9.67	29.00	
	Ties	4 ^{am}			
	Total	18			
14. İngilizce bir konuyu öğretmen anlatmazsa, onu öğrenemeyeceğim diye korkarım.	Negative Ranks	6 ^{an}	3.92	23.50	.10
	Positive Ranks	1 ^{ao}	4.50	4.50	
	Ties	11 ^{ap}			
	Total	18			

Appendix D

The Wilcoxon Test Results for the Experimental Group

Items	Ranks	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
1. İngilizce öğrenmemi sağlayacak en uygun aktiviteyi seçmek isterim.	Negative Ranks	5 ^a	4.00	20.00	.25
	Positive Ranks	2 ^b	4.00	8.00	
	Ties	11 ^c			
	Total	18			
2. İngilizce öğrenirken sorumluluk almak isterim.	Negative Ranks	8 ^d	5.69	45.50	.23
	Positive Ranks	3 ^e	6.83	20.50	
	Ties	7 ^f			
	Total	18			
3. İngilizce öğrenirken benim görüşlerimin alınmasını isterim.	Negative Ranks	1 ^g	1.50	1.50	1.0
	Positive Ranks	1 ^h	1.50	1.50	
	Ties	16 ⁱ			
	Total	18			
4. İngilizce dersinde öğretilcek konularda söz sahibi olmak isterim.	Negative Ranks	6 ^j	4.50	27.00	.19
	Positive Ranks	2 ^k	4.50	9.00	
	Ties	10 ^l			
	Total	18			
5. İngilizce öğrenirken zayıf taraflarımı tespit edebilirim.	Negative Ranks	3 ^m	5.33	16.00	.76
	Positive Ranks	5 ⁿ	4.00	20.00	
	Ties	10 ^o			
	Total	18			

6. İngilizce öğrenirken güçlü taraflarımı tespit edebilirim.	Negative Ranks	3 ^p	3.50	10.50	1.0
	Positive Ranks	3 ^q	3.50	10.50	
	Ties	12 ^r			
	Total	18			
7. İngilizce derslerimle ilgili video/CD' leri sınıf dışında kullanmak isterim.	Negative Ranks	5 ^s	6.10	30.50	.81
	Positive Ranks	6 ^t	5.92	35.50	
	Ties	7 ^u			
	Total	18			
8. İngilizce iletişim kurmak için risk almayı severim.	Negative Ranks	4 ^v	5.00	20.00	.21
	Positive Ranks	7 ^w	6.57	46.00	
	Ties	7 ^x			
	Total	18			
9. İngilizceyi sadece öğretmenin yardımıyla öğrenebilirim.	Negative Ranks	4 ^y	7.00	28.00	.95
	Positive Ranks	6 ^z	4.50	27.00	
	Ties	8 ^{aa}			
	Total	18			
10. Seviyeme göre yazılmış İngilizce kitapları kendi isteğimle okurum.	Negative Ranks	3 ^{ab}	7.00	21.00	.13
	Positive Ranks	9 ^{ac}	6.33	57.00	
	Ties	6 ^{ad}			
	Total	18			
11. Kendi öğrenme ihtiyaçlarımı belirleyebilirim.	Negative Ranks	3 ^{ae}	4.00	12.00	.36
	Positive Ranks	5 ^{af}	4.80	24.00	
	Ties	10 ^{ag}			
	Total	18			
	Negative Ranks	3 ^{ah}	5.50	16.50	.05

12. İngilizcede yaptığım çalışmalarımı kendim değerlendirebilirim.	Positive Ranks	9 ^{ai}	6.83	61.50	
	Ties	6 ^{aj}			
	Total	18			
13. Yapılan aktivitelerde bana da seçim hakkı verilmesini isterim.	Negative Ranks	2 ^{ak}	7.75	15.50	.10
	Positive Ranks	9 ^{al}	5.61	50.50	
	Ties	7 ^{am}			
	Total	18			
14. İngilizce bir konuyu öğretmen anlatmazsa, onu öğrenemeyeceğim diye korkarım.	Negative Ranks	10 ^{an}	5.75	8.50	.02
	Positive Ranks	1 ^{ao}	8.50	57.50	
	Ties	7 ^{ap}			
	Total	18			

Appendix E
Mann-Whitney U Test Results for the Pre-test of the Control and Experimental Groups

Item	Group	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
1. İngilizce öğrenmemi sağlayacak en uygun aktiviteyi seçmek isterim.	Control Group	18	17.50	315.00	.46
	Experimental Group	18	19.50	351.00	
	Total	36			
2. İngilizce öğrenirken sorumluluk almak isterim.	Control Group	18	16.47	296.50	.21
	Experimental Group	18	20.53	369.50	
	Total	36			
3. İngilizce öğrenirken benim görüşlerimin alınmasını isterim.	Control Group	18	16.00	288.00	.10
	Experimental Group	18	21.00	378.00	
	Total	36			
4. İngilizce dersinde öğretilecek konularda söz sahibi olmak isterim.	Control Group	18	16.61	299.00	.26
	Experimental Group	18	20.39	367.00	
	Total	36			
5. İngilizce öğrenirken zayıf taraflarımı tespit edebilirim.	Control Group	18	17.28	311.00	.46
	Experimental Group	18	19.72	355.00	
	Total	36			
6. İngilizce öğrenirken güçlü taraflarımı tespit edebilirim.	Control Group	18	15.03	270.50	.03
	Experimental Group	18	21.97	395.50	
	Total	36			
7. İngilizce derslerimle ilgili video/CD' leri sınıf dışında kullanmak isterim.	Control Group	18	19.17	345.00	.68
	Experimental Group	18	17.83	321.50	
	Total	36			
	Control Group	18	20.17	363.00	.31

8. İngilizce iletişim kurmak için risk almayı severim.	Experimental Group	18	16.83	303.00	
	Total	36			
9. İngilizceyi sadece öğretmenin yardımıyla öğrenebilirim.	Control Group	18	20.03	360.50	.35
	Experimental Group	18	16.97	305.50	
	Total	36			
10. Seviyeme göre yazılmış İngilizce kitapları kendi isteğimle okurum.	Control Group	18	17.78	320.00	.66
	Experimental Group	18	19.22	346.00	
	Total	36			
11. Kendi öğrenme ihtiyaçlarımı belirleyebilirim.	Control Group	18	19.06	343.00	.73
	Experimental Group	18	17.94	323.00	
	Total	36			
12. İngilizcede yaptığım çalışmalarımı kendim değerlendirebilirim.	Control Group	18	20.00	360.00	.36
	Experimental Group	18	17.00	306.50	
	Total	36			
13. Yapılan aktivitelerde bana da seçim hakkı verilmesini isterim.	Control Group	18	20.50	360.50	.37
	Experimental Group	18	17.50	306.50	
	Total	36			
14. İngilizce bir konuyu öğretmen anlatmazsa, onu öğrenemeyeceğim diye korkarım.	Control Group	18	19.36	348.50	.60
	Experimental Group	18	17.64	317.50	
	Total	36			

Appendix F
Mann-Whitney U Test Results for the Post-test of the Control and Experimental Groups

Item	Group	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
1. İngilizce öğrenmemi sağlayacak en uygun aktiviteyi seçmek isterim.	Control Group	18	16.42	295.50	.18
	Experimental Group	18	20.58	370.50	
	Total	36			
2. İngilizce öğrenirken sorumluluk almak isterim.	Control Group	18	18.50	333.00	1.0
	Experimental Group	18	18.50	333.00	
	Total	36			
3. İngilizce öğrenirken benim görüşlerimin alınmasını isterim.	Control Group	18	15.33	276.00	.04
	Experimental Group	18	21.67	390.00	
	Total	36			
4. İngilizce dersinde öğretilecek konularda söz sahibi olmak isterim.	Control Group	18	19.94	359.00	.38
	Experimental Group	18	17.06	307.00	
	Total	36			
5. İngilizce öğrenirken zayıf taraflarımı tespit edebilirim.	Control Group	18	14.83	267.00	.02
	Experimental Group	18	22.17	399.00	
	Total	36			
6. İngilizce öğrenirken güçlü taraflarımı tespit edebilirim.	Control Group	18	15.03	270.50	.03
	Experimental Group	18	21.97	395.50	
	Total	36			
7. İngilizce derslerimle ilgili video/CD' leri sınıf dışında kullanmak isterim.	Control Group	18	18.50	333.00	1.0
	Experimental Group	18	18.50	333.50	
	Total	36			
	Control Group	18	18.25	328.50	.88

8. İngilizce iletişim kurmak için risk almayı severim.	Experimental Group	18	18.75	337.50	
	Total	36			
9. İngilizceyi sadece öğretmenin yardımıyla öğrenebilirim.	Control Group	18	17.83	321.00	.68
	Experimental Group	18	19.17	345.00	
	Total	36			
10. Seviyeme göre yazılmış İngilizce kitapları kendi isteğimle okurum.	Control Group	18	16.17	291.00	.16
	Experimental Group	18	20.83	375.00	
	Total	36			
11. Kendi öğrenme ihtiyaçlarımı belirleyebilirim.	Control Group	18	16.08	289.50	.10
	Experimental Group	18	20.92	376.50	
	Total	36			
12. İngilizcede yaptığım çalışmalarımı kendim değerlendirebilirim.	Control Group	18	15.69	282.50	.07
	Experimental Group	18	21.31	383.50	
	Total	36			
13. Yapılan aktivitelerde bana da seçim hakkı verilmesini isterim.	Control Group	18	15.42	277.50	.06
	Experimental Group	18	21.58	388.50	
	Total	36			
14. İngilizce bir konuyu öğretmen anlatmazsa, onu öğrenemeyeceğim diye korkarım.	Control Group	18	20.50	369.00	.24
	Experimental Group	18	16.50	297.00	
	Total	36			

Özgeçmiş

KİŞİSEL BİLGİLER

Adı Soyadı: Sena KÖNEZ

Uyruğu: T.C.

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Yüksek Lisans	İstanbul Medeniyet Üniversitesi, Lisansüstü Eğitim Enstitüsü, İngiliz Dili Eğitimi	Devam ediyor

İŞ TECRÜBESİ

Tarih	Kurum	Görev
2021-Halen	Haliç Üniversitesi, Yabancı Diller Yüksekokulu	Öğretim Görevlisi

YABANCI DİLLER

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