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المجلة الأمريكية الدولية للعلوم الإنسانية والاجتماعية

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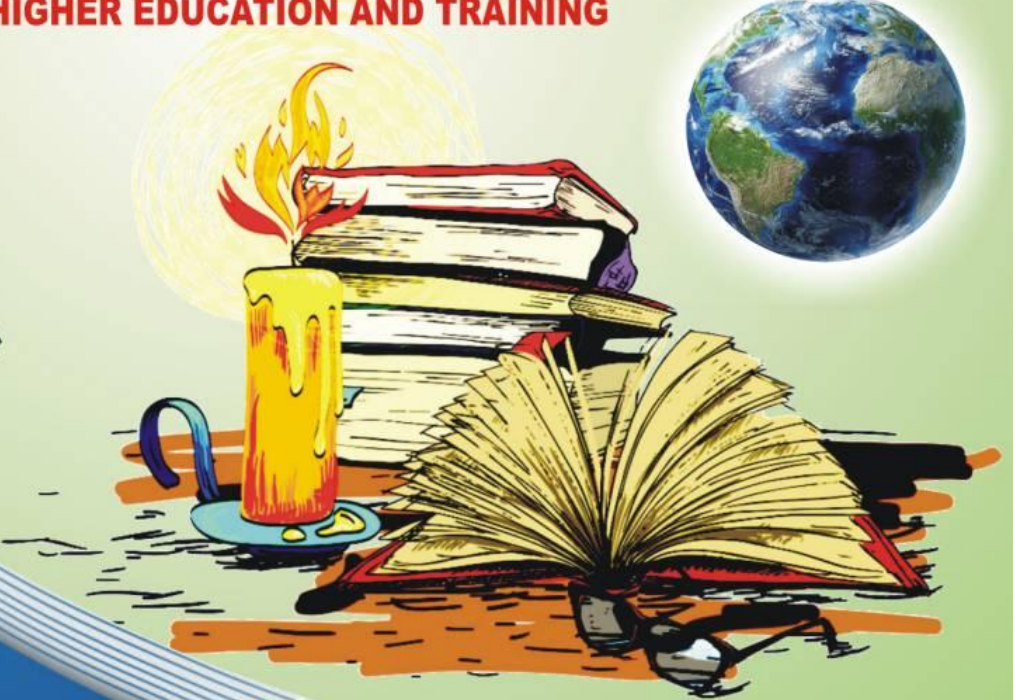
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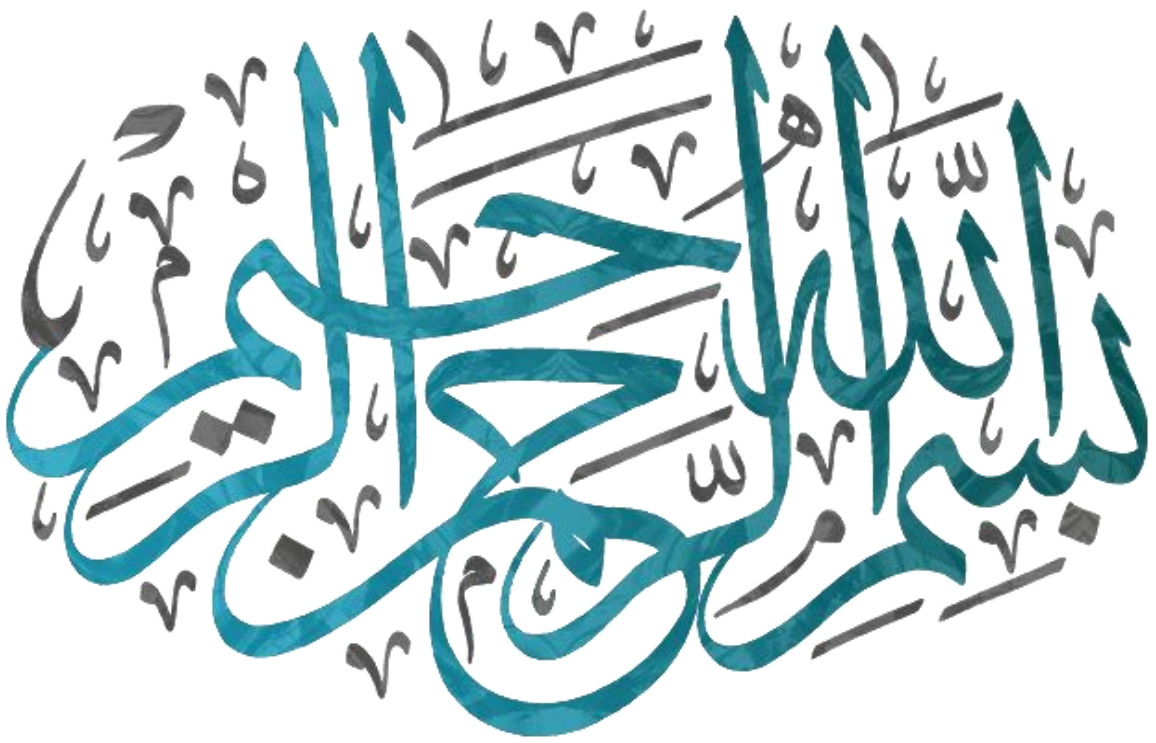
رقم الايداع القانوني في المكتبة الوطنية المغربية (2025 Pe00006)

رقم الايداع القانوني في دار الكتب والوثائق العراقية (2735)

تصدر عن الأكاديمية الأمريكية الدولية
للتعليم العالي والتدريب

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تتألف هيئة تحرير المجلة الأمريكية الدولية للعلوم الإنسانية والاجتماعية من نخبة من العلماء والخبراء المتميزين من مختلف المؤسسات الأكاديمية الدولية. وتتولى الهيئة مسؤولية الحفاظ على جودة البحوث المنشورة وتقديم التوجيه الاستراتيجي لتطوير المجلة.

رئيس التحرير-أ.د.نزهة إبراهيم الصبري – نائب رئيس الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب- المملكة المغربية

نائب رئيس التحرير: أ.د. حاتم جاسم الحسون، رئيس الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب.

مدير التحرير- أ.د. هند عباس على الحمادي-أستاذ بقسم اللغة العربية وعلومها-كلية التربية للبنات-جامعة بغداد، جمهورية العراق (مدقق اللغة العربية).

<https://orcid.org/my-orcid?orcid=0009-0003-0515-501X>

سكرتارية التحرير

1. أ.م.د. محمد حسن أبو رحمة . وزارة التربية – فلسطين .
2. أ.سكينة إبراهيم الصبري. الشؤون الإدارية. الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب.

أعضاء هيئة التحرير

1. أ.د. حسن يوسف – استاذ اللغة العربية آدابها – جامعة قناة السويس – مصر- المدقق العام.
2. أ.د. خالد ستار القيسي ، عميد كلية الإعلام ، الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب.
3. أ. مجدي عبد الله الجايح، كلية اللغات والعلوم الإنسانية، الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب. (مدقق اللغة الإنكليزية)
4. المهندس اسماعيل المساق ، كلية علومالتقنية ، جامعة محمد الخامس ، الرباط، المملكة المغربية.

(التصميم)

5. أ.محمد تايه محمد - بك إدارة أعمال - كلية الإدارة والاقتصاد - جامعة الكوفة. (التنضيد) .

<https://orcid.org/0009-0003-6945-2806>

أعضاء الهيئة العلمية

1. Prof. Dr Hanik Mahliatussikah - State University of Malang, Indonesia, Chairman of the Association of Arabic Language Teaching Departments in Indonesia.
2. Prof. Dr. Shamnad N - University College, Thiruvananthapuram, Kerala, India.
3. Prof.Dr.Ali H. ABDUL RASOL - KDG College - Leerexpert -England.
4. Dr.MUSTAPHA ABDUL AZIZ AKANJI - Président-Fondateur des groupes scolaires et Universitaires AKANJI En Côte d'ivoire et Nigeria.
5. Dr.Nada Al-Abidi - Educational Sciences Teaching Curricula, Methods, and E-Learning - Sweden
6. أ.د. أبكر عبد البنات آدم . مدير جامعة القرآن الكريم وتأسيس العلوم . جمهورية السودان
<https://orcid.org/0009-0009-8298-4464>
7. أ.د. رانيا الصاوي عبده عبد القوي – قسم علم نفس تربوي – كلية التربية – جامعة 6 أكتوبر – مصر
<https://orcid.org/0000-0001-7436-2774>
8. أ.د. آمال العرباوي مهدي - رئيس قسم التربية المقارنة بكلية التربية مصر
<https://orcid.org/0009-0005-3260-820X>
9. أ.د. أمل مهدي جبر- رئيس قسم العلوم التربوية والنفسية .كلية التربية للبنات . جامعة البصرة، جمهورية العراق
<https://orcid.org/0000-0001-7463-9876>
10. أ.د. ناهض فالح سليمان- كلية التربية للعلوم الإنسانية . قسم اللغة الإنجليزية . جامعة ديالى . جمهورية العراق
<https://orcid.org/0009-0009-7896-820X>
11. أ.د. نور الدين زين العابدين متولي أحمد - رئيس قسم اللغة العربية وآدابها بكلية العلوم الإنسانية بجامعة بيروت العربية - لبنان
<https://orcid.org/0009-0006-7020-7244>
12. أ.د. نصيف جاسم أسود سالم الأحبابي . كلية التربية للعلوم الإنسانية . قسم الجغرافية . جامعة تكريت . جمهورية العراق
<https://orcid.org/0009-0002-6669-4706>
13. أ.د. نورة محمد مستغفر . أستاذ التعليم العالي مؤهل، المركز الجهوي لمهن التربية والتكوين، المملكة المغربية
<https://orcid.org/0009-0001-4682-2005>
14. أ.د. هاله خالد نجم- رئيس قسم الترجمة . كلية الآداب- جامعة الموصل – جمهورية العراق).
<https://orcid.org/0009-0004-3687-1788>

15. أ.د. محمد خضير عباس الجيلوي - كلية الطوسي الجامعة - النجف الاشرف - العراق .
<https://orcid.org/0009-0001-9668-9329>
16. أ.د. محمد نهمان ابراهيم رحيم الهيتي - علوم اسلامية - جامعة الانبار - العراق . 0003-0000-6193-4092
17. أ.د. سميرة شمعاوي - استاذة باحثة بمركز التوجيه والتخطيط التربوي بالرباط - المغرب .
<https://orcid.org/0009-0008-2452-6011>
18. أ.د. برزان ميسر حامد أحمد الحميد . كلية التربية للعلوم الإنسانية. جامعة الموصل . جمهورية العراق .
(<https://orcid.org/0009-0003-7795-3934>)
19. أ.د. محمد ازهري - جامعة السلطان مولاي سليمان - كلية الآداب والعلوم الإنسانية. بني ملال. المغرب .
20. أ.د. تارا عمر أحمد - كلية العلوم السياسية . جامعة السلیمانية . جمهورية العراق
<https://orcid.org/my-orcid?orcid=0009-0003-9424-6211> .
21. أ.د. تحرير علي حسين علوان - كلية الفنون الجميلة - جامعة البصرة - جمهورية العراق .
<https://orcid.org/0009-0002-0076-0491>
22. محمد لؤي محمد سليم البني معهد الحضارة للتأهيل والتدريب السياحي والفندقي | دمشق، سوريا .
7088-2826-0008-0009
23. أ.د. الشرقي عبد الحليم - كلية الآداب والعلوم الإنسانية - سايس - جامعة - سيدي محمد بن عبد الله - فاس - المملكة المغربية
<https://orcid.org/0000-0002-6947-5712> .
24. أ.د. داود مراد حسين الداودي . دكتوراه العلوم السياسية . مدير وحدة البحوث والدراسات . جامعة القادسية . كلية القانون . جمهورية العراق
<https://orcid.org/0009-0000-3272-5899> .
25. أ.م.د. عزيز عبدالرحمن محمد الادبي - جامعة تعز - مدير عام بحوث التنمية الادارية والتدريب - ديوان عام محافظة تعز - اليمن
<https://orcid.org/0009-0005-2702-0495> .
26. أ.م.د. علاء الدين محمد حسين عياش - رئيس قسم تكنولوجيا الاعلام - جامعة فلسطين التقنية - فلسطين
<https://orcid.org/0000-0001-8152-9261> .
27. أ.د. سندس عزيز فارس الفارس - خبير تربوي - عميد كلية الدراسات العليا والبحث العلمي في الاكاديمية الأمريكية . جمهورية العراق
<https://orcid.org/0009-0002-7185-1059> .

28. أ.د. عدنان فرحان الجوراني . أستاذ الاقتصاد . جامعة البصرة . جمهورية العراق) .
(<https://orcid.org/0009-0006-6673-5714>)
29. د. حلا عدنان نيري - كلية الاقتصاد - قسم المحاسبة - جامعة حلب - سوريا
(<https://orcid.org/0009-0006-5511-3266>)
30. أ.د. ماجدولين محمد النهيبي- كلية علوم التربية . جامعة محمد الخامس . الرباط، المملكة المغربية
(Orcid id: 0009-0000-1125-8689)
31. د. ياسر حسن ناجي الصلوي - جامعة تعز - اليمن- (<https://orcid.org/0009-0006-7335-3570>)
32. أ.د. ماهر مبدر عبد الكريم العباسي . نائب عميد كلية التربية للعلوم الإنسانية . جامعة ديالى .
جمهورية العراق. 0009-0006-0681-1033
33. أ.د. حاكم موسى عبد الحسناوي - استاذ طرائق تدريس التأريخ - وزارة التربية - الكلية التربوية
المفتوحة - جمهورية العراق (<https://orcid.org/0000-0002-3992-672X?lang=ar>)
34. د. ليلى الادريسي - دكتوراه في القانون والعلوم السياسية - كلية العلوم القانونية والاقتصادية
والاجتماعية - جامعة محمد الخامس - الرباط - المغرب.
0009-0005-8175-7113
35. أ.م.د. آوان عبد الله محمود الفيضي .دكتوراه قانون خاص .كلية الحقوق .جامعة الموصل .جمهورية
العراق (<https://orcid.org/0000-0001-8777-978x>)

أعضاء الهيئة الاستشارية

1. أ.د. هالة مختار الوحش - استاذ اصول التربية الانسانية جامعة الازهر - مصر .
(<https://orcid.org/0009-0008-8680-0194>)
2. أ.د. محمد علي عباس - علوم تربوية نفسية - الاكاديمية الامريكية الدولية للتعليم العالي
والتدريب- أمريكا (<https://orcid.org/0009-0004-2576-8136>)
3. أ.د. حسن يوسف - استاذ اللغة العربية آدابها - جامعة قناة السويس - مصر .
4. د. عائشة الهوس - تخصص القانون العام والعلوم السياسية - المعهد المغربي للدراسات
الاستراتيجية وإدارة الأزمات - المملكة المغربية (<https://orcid.org/0009-0000-4666-3086>)

5. أ.د. ناهض فالح سلمان - كلية التربية - جامعة ديالى - العراق-0009-0009 <https://orcid.org/0009-0009-0009-0009> .
7896-820X
6. أ.د. رائد بني ياسين- عميد كلية الأعمال . قسم نظم المعلومات . الجامعة الأردنية- فرع العقبة . المملكة الأردنية الهاشمية(1788-3687-0004-0009) <https://orcid.org/0009-0004-3687-1788> .
7. د. نادية فضيل – المركز الجهوي لمهن التربية والتكوين – بني ملال – المغرب.
8. د. هشام الميموني، دكتور في القانون العام، جامعة الحسن الثاني - الدار البيضاء ، كلية الحقوق - المحمدية(المغرب)
0000-0002-9569-3369
9. أ.م. د. سماح هادي محمد – كلية الحقوق – جامعة النهرين – جمهورية العراق
<https://orcid.org/0009-0006-9104-6347> .
10. أ.م.د.ايمن محمد مصطفى – كلية الدراسات العليا لتكنولوجيا النانو – مدير معمل الطاقة الشمسية – جامعة القاهرة – مصر.
X575-6465-0001-0000
11. م. د. حامد شمال مصحب - كلية الحكمة الجامعة تكنولوجيا المعلومات والاتصالات والذكاء الاصطناعي – العراق
<https://orcid.org/0000-0002-4382-0872> .
12. أ.د. ماهر جاسب حاتم الفهد – تخصص التاريخ الحديث والمعاصر - كلية الإمام الكاظم "ع" قسم التاريخ – العراق
<https://orcid.org/0000-0001-5708-2527> .
13. د. نجلاء حمدان رحمة الله جادين - جامعة جازان / كلية الفنون والعلوم الإنسانية المملكة العربية السعودية
<https://orcid.org/0009-0008-5146-475X> .
14. أ.د.علي سموم الفرطوسي - الجامعة المستنصرية / كلية التربية البدنية وعلوم الرياضة - أستاذ القياس والتقويم - الإحصاء - كرة السلة - حكم ومراقب في دولي بكرة السلة - العراق.
ORCID : <https://orcid.org/0000-0002-8598-5149>
15. أ.د. مازن خلف ناصر. كلية القانون . جامعة المستنصرية . جمهورية العراق .
<https://orcid.org/0000-0003-3754-4266>
16. أ.م.د. محمد عبدالفتاح زهرى- رئيس قسم الدراسات الفندقية- كلية السياحة والفنادق – جامعة المنصورة- جمهورية مصر العربية(6552-8533-0002-0000) <https://orcid.org/0000-0002-8533-6552> .
17. م.د. محمد مولود امنكور . كلية العلوم الإدارية والمالية والاقتصادية . الأكاديمية الأمريكية الدولية للتعليم العالي والتدريب
<https://orcid.org/0009-0000-8373-5528> .

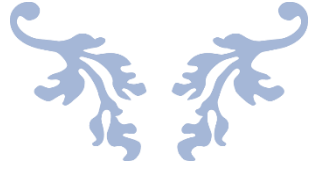
18. أ.م.د. موسى إسماعيل صالح حسين - أستاذ مساعد الأدب والنقد العربي قسم اللغة العربية -

جامعة جرش / الأردن <https://orcid.org/0009-0007-7197-1954>

19. أ.د. جاسم حسن سالم العطوي - طبيب عام - البصرة - العراق. 1975-2819-0001-0009



كلمة العرو



بسم الله الرحمن الرحيم

يُشرفنا في هيئة تحرير "المجلة الأمريكية الدولية للتعليم العالي والتدريب" أن نضع بين أيديكم العدد السابع والعشرين (الجزء الثاني)، الصادر في سياق متجدد من مساعيها الرامية إلى تعزيز جسور المعرفة الأكاديمية ونشر الرؤى العلمية المبتكرة.

إن هذا الإصدار يأتي ليؤكد على التزام المجلة الراسخ بأن تكون منصة عالمية تجمع النخب الأكاديمية والباحثين من مختلف أقطار العالم، حيث يضم هذا الجزء مجموعة من البحوث الرصينة التي خضعت لمعايير تحكيم دقيقة، تعكس عمق التفكير وتعدد المقاربات في مجالات التعليم العالي والتدريب المهني.

لقد سعينا من خلال هذه البحوث إلى تسليط الضوء على قضايا معاصرة، تدمج بين النظرية والتطبيق، وتستجيب للتحديات الراهنة التي تواجه المؤسسات التعليمية في ظل التحولات العالمية المتسارعة. إن مشاركة باحثين من جنسيات وخلفيات علمية متنوعة في هذا العدد هي شهادة حية على المكانة الدولية التي بلغتها المجلة، وعلى قدرتها على احتضان التنوع الفكري الذي يثري الحقل المعرفي.

ختاماً، نتوجه بخالص الشكر والتقدير لجميع الباحثين الذين ساهموا بنتائجهم الفكري في هذا العدد، ولأعضاء الهيئة العلمية والاستشارية الذين واصلوا جهودهم في مراجعة وتقييم الأعمال بكل تفان. نتمنى أن تجدوا في صفحات هذا الجزء ما يغني معارفكم ويحفز نقاشاتكم الأكاديمية.

مع خالص التحيات،

هيئة تحرير المجلة

2026/07/17 ديلاوير- الولايات المتحدة الأمريكية

الملاحظة القانونية

البحوث المنشورة في المجلة لا تعبر عن وجهة نظر المجلة ، بل عن رأي كاتبها.

فهرس الموضوعات	
المصاحبة المعجمية وأثرها في الاتساق النصي لشعر العباس بن مرداس السلمي أنموذجاً	
أ.د. ميعاد يوسف نصر الله / أ.د. شفاء خضير عباس	12.....
الاستراتيجيات التعليمية المنبثقة من فكر سترنبرغ	
أ.د. رغد زكي غياض / م. د. احمد عبد القادر منصور / م.م حيدر علي جارالله	25.....
درجة ممارسة القيادة الرقمية لدى مديري المدارس وعلاقتها بالرشاقة التنظيمية والحصانة المؤسسية من وجهة نظر المعلمين في مدارس الجليل.	
مننب طربية / مجدي عطية محمد مصري	44.....
مدى توظيف المواقف التاريخية القصيرة (MICRO-NARRATIVES) في تدريس الرياضيات وعلاقته بتعزيز الدافعية لدى طلبة الصف العاشر في المدارس الثانوية في الجولان	
رجا معين سليم أبو شاهين / ربيع نور الدين فضل الله أبو شاهين	68.....
فاعلية استخدام التعلم التفاعلي في رفع مستوى التحصيل الدراسي لطلبة الصف الخامس في مادة العلوم	
جهان سعيد علي صنع الله	93.....
مستوى توظيف الذكاء الاصطناعي لدى معلمي العلوم والعوامل المؤثرة فيه لدى طلبة الصف التاسع في المرحلة الإعدادية في الجولان	
ربيع نور الدين أبو شاهين / رجا معين سليم أبو شاهين	117.....
مستوى فاعلية التعليم عبر المنصات الرقمية في فترة الحرب لدى طلاب الريادة العلمية بالجليل شمال فلسطين	
رنين عيد رشيد سعده / مالكة احمد كامل بدران	142.....
درجة إسهام برامج التربية الرياضية في تنمية اللياقة البدنية والمهارات الاجتماعية لدى طالبات المرحلة الثانوية في شمال فلسطين من وجهة نظر المعلمات.	
مالكة احمد كامل بدران / رنين عيد رشيد سعده	181.....
THE ROLE OF USING ARTIFICIAL INTELLIGENCE IN BUILDING COMPUTERIZED-ADAPTIVE TESTS TO MEASURE THE ENGLISH LANGUAGE SKILLS OF SECONDARY SCHOOL STUDENTS IN PALESTINIAN SCHOOLS FROM THE TEACHERS' PERSPECTIVE	
ABED ALRAHMAN MAHMOOD KHALIL	202.....

The Effect of Dialogical Storytelling on Enhancing Speaking Fluency in English as a Fourth Language among Grade 11 High School Students in Buqata, Golan Heights	
Rose Suliman Abu Saleh Farhat.....	221
The Relationship between Digital Tool Use and English Language Study Skills among Secondary School Students in the Villages of Nazareth District: A Descriptive Quantitative Study	
Ahlam abed alsalam azaiza.....	272

The Relationship between Digital Tool Use and English Language Study Skills among Secondary School Students in the Villages of Nazareth District: A Descriptive Quantitative Study

Ahlam abed alsalam azaiza

An-Najah National University - Palestine

Ahlam.azaiza@gmail.com

00972502424014



Abstract

The current study focused on the use of digital tools and the relationship between such use and the English language learning skills of secondary school students in Palestinian villages surrounding Nazareth. The students completed a structured questionnaire that assessed their frequency of use of five categories of digital tools (translation, AI writing, etc.) and their self-evaluation of their skills in four areas (time management, academic organisation, motivation and note taking).

The overall level of digital use by students was at moderate to high level ($M = 3.69$). Not surprisingly, online dictionaries + translators were the most popular answers. The students' usage of AI tools, such as ChatGPT and Grammarly ($M = 3.88$), was also noticeable, exceeding expectations for secondary school students in a village environment. Institutional platforms such as Google Classroom scarcely scored ($M = 2.97$) leaving a space between students' self-directed learning and their schools' formal learning platforms.

Study skills were also found to be similar. The best grade was for motivation ($M = 3.89$) and the lowest grade was for time management ($M = 3.54$), with the latter having the greatest range among students.

Female students and students in the scientific track outperformed other students on both digital tool use and study skills. The Grade 12 students achieved higher scores than the Grade 10 students but the greatest growth between grade 10 and 11. The total digital tool use was correlated with the total study skills ($r = .51$; $p < .001$), with the strongest relationship being

between digital motivation and total digital tool use ($r = .53$; $p < .001$) and the weakest relationship being between time management and total digital tool use ($r = .44$; $p = .001$).

The data do not confirm the directionality of the influence: does using a tool improve study habits or are organized students more likely to pick up such tools? That's a question that can be answered by a longitudinal study. The results suggest that Palestinian secondary EFL students are utilizing digital tools in an effective and purposeful manner, while concentrated support in literary track and especially for younger learners might make a difference.

Keywords: digital tool use, English language study skills, EFL, secondary education, Palestine, self-motivation, time management, descriptive quantitative.

العلاقة بين استخدام الأدوات الرقمية ومهارات دراسة اللغة الإنجليزية لدى طلاب المدارس الثانوية في قرى قضاء الناصرة: دراسة كمية وصفية

احلام عبد السلام عزازرة

جامعة النجاح الوطنية - فلسطين

ملخص

ركزت هذه الدراسة على استخدام الأدوات الرقمية وعلاقة هذا الاستخدام بمهارات تعلم اللغة الإنجليزية لدى طلاب المرحلة الثانوية في القرى الفلسطينية المحيطة بالناصرة. أكمل الطلاب استبيانًا منظمًا لتقييم مدى استخدامهم لخمس فئات من الأدوات الرقمية (الترجمة، الكتابة بمساعدة الذكاء الاصطناعي، إلخ) وتقييمهم الذاتي لمهاراتهم في أربعة مجالات (إدارة الوقت، التنظيم الأكاديمي، التحفيز، وتدوين الملاحظات).

كان المستوى العام لاستخدام الطلاب للأدوات الرقمية متوسطًا إلى مرتفع (المتوسط = 3.69). وكما هو متوقع، كانت القواميس والمترجمات الإلكترونية هي الإجابات الأكثر شيوعًا. كما لوحظ استخدام الطلاب لأدوات الذكاء الاصطناعي، مثل ChatGPT و Grammarly (المتوسط = 3.88)، وهو ما يتجاوز التوقعات لطلاب المرحلة الثانوية في بيئة قروية. أما المنصات التعليمية الرسمية، مثل Google Classroom، فقد سجلت درجات منخفضة (المتوسط = 2.97)، مما يُظهر فجوة بين التعلم الذاتي للطلاب ومنصات التعلم الرسمية في مدارسهم.

كما تبين أن مهارات الدراسة متقاربة. كانت أعلى درجة في دافعية الطلاب (المتوسط = 3.89)، بينما كانت أدنى درجة في إدارة الوقت (المتوسط = 3.54)، مع وجود أكبر تباين بين الطلاب في الأخيرة.

تفوقت الطالبات والطلاب الملتحقون بالمسار العلمي على غيرهم من الطلاب في استخدام الأدوات الرقمية ومهارات الدراسة. حقق طلاب الصف الثاني عشر درجات أعلى من طلاب الصف العاشر، لكنهم حققوا أكبر نمو بين الصفين العاشر والحادي عشر. ارتبط استخدام الأدوات الرقمية بشكل عام بمهارات الدراسة (معامل الارتباط = 0.51؛ القيمة الاحتمالية > 0.001)، وكانت أقوى علاقة بين دافعية استخدام الأدوات

الرقمية واستخدامها (معامل الارتباط = 0.53؛ القيمة الاحتمالية > 0.001)، بينما كانت أضعف علاقة بين إدارة الوقت واستخدام الأدوات الرقمية (معامل الارتباط = 0.44؛ القيمة الاحتمالية = 0.001).

لا تؤكد البيانات اتجاه التأثير: هل يُحسن استخدام الأدوات عادات الدراسة، أم أن الطلاب المنظمين أكثر ميلاً لاستخدام هذه الأدوات؟ هذا سؤال يمكن الإجابة عليه من خلال دراسة طولية. تشير النتائج إلى أن طلاب اللغة الإنجليزية كلغة أجنبية في المرحلة الثانوية الفلسطينية يستخدمون الأدوات الرقمية بفعالية وهدف، وأن تقديم دعم مكثف في المسار الأدبي، وخاصةً للمتعلمين الأصغر سناً، قد يحدث فرقاً.

الكلمات المفتاحية: استخدام الأدوات الرقمية، مهارات دراسة اللغة الإنجليزية، اللغة الإنجليزية كلغة أجنبية، التعليم الثانوي، فلسطين، التحفيز الذاتي، إدارة الوقت، المنهج الوصفي الكمي.

Chapter One: Introduction

1.1 Introduction

The 21st-century has been drastically changed by the quick growth of digital technology, which has profoundly impacted the education field. Digital tools, from smartphones to language learning apps, online platforms to interactive multimedia materials, have been a part of the modern learning landscape. These tools provide unparalleled opportunities to engage, self-study, and develop skills for English language learners. The pandemic has resulted in a substantial and rapid shift to digital tools in the education sector and has called for a complete re-thinking of instructional paradigms, as mentioned by Danca et al. (2023). This change has necessitated a new understanding for educators and researchers of not only how often students use these tools, but also how they are using them and what they are learning.

Mastery of English is considered essential for secondary school students around the world as it is a global language of communication, commerce, and academia (Rao, 2019, cited in the impact of digital technology use on EFL students, 2024). Students in the Palestinian context, as in many other non-native English-speaking settings, have unique problems in learning and using the language in their non-formal settings. Digital tools can serve as a possible link that can allow students to engage with authentic language content, communicate in English, and receive instant feedback regardless of geographical restrictions (Kim et al., 2025, cited in Sharma, 2024).

Although the use of digital tools is common among pupils, there is limited research into the link between using digital tools and the effective development of study skills to support learning in English at the secondary school level. In the literature, study skills, which include self-motivation, academic organization, note-taking, and time management, are identified as essential factors in achieving academic success (Hassanbeigi et al., 2011, as cited in Klabat Journal of Management, 2024). The question remains whether the use of a digital tool is a systematic reinforcement or a deterioration of these skills, and whether this can be empirically investigated.

According to several studies, the use of digital resources in studying has resulted in significant gains in student vocabulary, fluency in speaking, and comprehension of listening, as well as the enhancement of the motivation of students (Giyazova, 2024). Other scholars, however, have cautioned that technology may add too much to the burden of learning; for English language learners, who are already tasked with learning a new language, technology can also be

overwhelming (Sung et al., 2016, as cited in Sharma, 2024). Social media notifications and messaging apps have been found to pose a major distraction and can interfere with students' time management and organizational processes (Sharma, 2024, as cited in Pérez-Juárez, 2023).

In addition, studies show that the impact of digital tools is not consistent across all classrooms. In terms of acceptance, frequency of use, and operational skills in language learning with digital resources, gender, academic level, and specialization field have been found to have an impact on students (Noori & Orfan, 2022). In the systematic review conducted by Qazi et al., (2022) measurable differences between genders were observed in terms of the use and skills associated with the use of ICTs, thereby emphasizing the importance of considering demographic factors when examining digital tool use comprehensively.

The present study aims to fill these gaps by investigating the relationship between the use of digital tools and English language study skills for secondary school students in Palestine. It uses a descriptive quantitative approach that maps the patterns of digital tool use and evaluates the digital tool use study skills score, as well as if there is a statistically significant relationship between the two constructs and across major demographic variables. The results should have practical applications for teachers, curriculum, and policy developers wanting to make use of the potential of digital technology for language learning.

1.2 Problem of the study

In Palestine, secondary school students are becoming more and more dependent on digital technologies such as translating apps, social media, and online dictionaries for the English language they use in their daily lives. However, the lack of empirical evidence on whether such use correlates with the enhancement or decline in core study skills in the English language includes time management, academic organization, self-motivation, and note-taking.

Study skills have been consistently identified as predictors of academic achievement (as cited in Hassanbeigi et al., 2011, in Klabat Journal of Management, 2024), and the use of digital tools has been reported as impacting students' engagement and language development (Giyazova, 2024). The empirical relationship between the two, however, is not well addressed in secondary education in Arabic-speaking environments like Palestine. The majority of the existing literature is on higher education students or conducted in the West or East Asia, creating a major gap in context (Shadiev & Yang, 2020, cited in Frontiers in Education, 2025).

Furthermore, the interaction between academic track within a university (scientific vs. literary stream) and academic level with digital tool use and study skills is not known. Other studies

revealed that there are no statistically significant differences in academic achievement when using digital tools based on gender (Acheampong & Bingab, 2022) and there are gender differences in the acceptance and use of ICT in language learning (Noori & Orfan, 2022). This is an inconsistent situation and warrants an investigation in context.

The problem of this study is therefore formulated as follows: What is the percentage of the use of digital tools by students in learning English in secondary schools, what is the level of students' language study skills in English in secondary schools and whether there is a statistically significant relationship between the percentage of the use of digital tools by the students in learning English in secondary schools and the level of the language study skills of the students in learning English in secondary schools. The answer to this question is critical to designing instructionally sound and evidence-based approaches that can be used to effectively incorporate digital technology into ELL instruction.

1.3 Research Questions

This study takes up that question. In particular, the following general research question is answered:

How do high school students' digital tool use relate to their English language learning?

The five sub-questions that follow are drawn from this:

- How often and for what purposes are digital tools being used by High School students to learn English?
- How good are the English language study skills (time management, organization, motivation, note-taking) of high school students?
- Do there exist statistically significant gender, academic level, and specialization disparities in the use of digital tools?
- Do there appear to be statistically significant differences in English language study skills with respect to these demographic variables?
- What is the association between the use of digital tools and study skills in English?

1.4 Research Objectives

The purpose of this study is to accomplish the following objectives:

- To gauge the frequency and uses of digital tools of secondary school students in learning English.

- To evaluate the study skills with respect to the English language of secondary school students, in terms of time management, organization, motivation, and note making.
- To find out if there are statistically significant differences in gender, academic level or specialization in digital tool use.
- To identify if there are significant differences in English language study skills by these demographic factors.
- To understand the nature and strength of the relationship between the use of digital tools and the ability of English language study skills of secondary school students.

1.5 Research Hypothesis

Hypotheses are proposed based on the research questions and literature reviewed:

H1: Students in secondary schools are often using digital technologies when learning English, mainly to look up words in a dictionary and conduct online research and practice English.

H2: Secondary school students' English language study skills are moderate.

H3: There are statistically significant differences in the use of digital tools by gender, academic level, and specialization.

H4: Gender, academic level, and specialization are statistically significant differences in English language study skills.

H5: The use of digital tools has a positive correlation with the study skills of secondary school students in the English language.

1.6 Significance of the study

Theoretically and practically significant study. In theory, it is an addition to the literature regarding technology-based language learning, as it introduces empirical evidence about the links between the use of digital tools and study skills in secondary education in an Arab educational context, which has received limited attention in the literature (Shadiev & Yang, 2020, as cited in Frontiers in Education, 2025). It amplifies awareness of the ways in which digital tools can be used as a medium of content delivery as well as a potential enabler or detractor of learners' habits and self-regulation.

On a practical level, the study results directly affect several groups of stakeholders. The results can guide pedagogy for teachers and educators in the use of digital tools in English language learning for deepening rather than tokenizing engagement with learning. The study provides

curriculum designers and ministry officials with quantitative findings to support curriculum and technology integration changes at the secondary level.

For students, the study helps to raise their awareness of patterns of their own digital tool use that might be impacting their academic organization, motivation, and learning efficiency. It is considered to be a prerequisite for digital literacy or the ability to use technology effectively, critically and purposefully (Dancsa et al., 2023). Finally, for school administrators, the findings can inform decisions about the investment in digital infrastructure and the design of targeted study skills programs to supplement the use of technology.

The study is also notable because of the COVID-19 pandemic's impact on education that will persist for years to come. Given the compulsory switch to online and distance learning during the Covid-19 pandemic, it is important to know whether students have acquired positive and long-lasting digital competencies or whether they have sacrificed structured study habits for more time in front of screens (Dancsa et al., 2023).

1.7 Definition of terms

Digital Tools

Conceptually, Digital tools are electronic devices, digital applications, and online platforms with which learners access, process, create, and share information. In an English language learning setting, these encompass smartphones, tablets, computers, online dictionaries, translation applications, language learning applications (Duolingo, etc.), Learning Management Systems (LMS), and language learning collaboration platforms (Giyazova, 2024).

In the practical sense: In this study, digital tool means the frequency, types and purposes of digital devices and applications used by secondary school students in the learning process, specifically in English learning. This will be assessed by a structured questionnaire that will rate the frequency of use of the identified types of tools.

English Language Study Skills

Conceptually, the study skills are defined as the skills and strategies that learners use to arrange, process, and recall academic information effectively. From the perspective of English language learning, they involve four main aspects: time management, academic organization, self-motivation, and note-taking (Hassanbeigi et al., 2011, cited in Klabat Journal of Management, 2024).

Operationally, English language study skills in this study are defined as an indicator of the study skills, with a scale of 5 Likert scale obtained from the English language study skills questionnaire in the study, with the four dimensions, namely reading, writing, speaking, and listening in English.

Time Management

Time Management Conceptually: It is a process that students use to plan, prioritize and allocate the time they have to academic tasks to minimise procrastination and academic stress (Brodowicz, 2024, as cited in the impact of digital tools on students' time management skills, 2025).

Operationally: The extent of the student's ability to effectively plan and follow through with study plans for English language learning, as evidenced in specific items on the questionnaire.

Academic Organization

Conceptually, an academic organisation is the capacity to plan and organise learning resources, tasks, and learning spaces in a systematic manner that enables them to be efficient in processing and retrieving information.

Operational: the self-assessment of the student's ability to keep notes organized, have a structured study plan, and learning materials that are orderly, as stated in the questionnaire, for English.

Self-Motivation

Conceptually, the academic context is a place where the student's own personal motivation will drive him/her to pursue learning tasks without compulsion or pressure. The findings of the research proved that motivation is significantly influences students' academic performance (Klabat Journal of Management, 2024).

Operationally: The degree to which students can report their self-directed interest and effort in learning English, regardless of the teacher's teaching and examination pressure.

Note-Taking

Conceptually, Note-taking is a process of summarising and writing down important facts, ideas, and explanations that are heard while reading, learning, or listening to academic texts; important facts, ideas, and explanations are moved from the text into the notes and then into memory

during encoding and retention stages; during retrieval, the notes assist in recalling important facts, ideas, and explanations.

Operationally: the frequency and quality of students' report of self-reported note taking behaviors in English language study sessions, as determined by specific items of the questionnaire.

Secondary School Students

Conceptually, Secondary school students are those in grades 10-12 (or equivalent) of the formal education system, usually between the ages of 15 and 18.

Operationally: This study will be conducted on secondary school students who are studying English as a subject in public or private secondary schools in Palestine.

Descriptive Quantitative Study

Conceptually, A descriptive quantitative study is a type of research design that attempts to describe and measure phenomena "as they are" without manipulation of variables, by numerical data and statistical analysis (Creswell & Creswell, 2022).

Operationally: This study uses structured survey questionnaires to gather data, and descriptive and inferential statistics (means, standard deviations, frequencies, Pearson correlation, t-tests, ANOVA) are used to analyze data to describe patterns and relationships without the influence of the experimenter

Chapter Two: Theoretical framework

2.1 Digital Tools

2.1.1 Concept Digital Tools

Digital tools encompass all technology-based applications, platforms, software, and devices that support the learning process and promote learners' academic achievement. In the context of education, digital tools are defined by Danca et al. (2023) as any electronic resource from hardware (tablets, smartphones, etc.) to software (learning management systems, language applications, etc.) that facilitates the generation, storage, retrieval and dissemination of knowledge. Functionally, these tools enable students to find information, engage with learning

content, communicate with their teacher and classmates, and do learning activities more efficiently and flexibly than they would using conventional tools.

Digital tools have grown in importance, particularly in the context of today's education, and even more so in the wake of COVID-19. A global health crisis resulted in an unprecedented and rapid increase in digital tool adoption in schools around the world, with teachers and students being forced to interact with digital tools in ways that could be quite transformative, as Danca et al. (2023) note. Digital tools have been identified as a crucial mechanism for connecting formal classroom teaching and authentic language use in real-world contexts, as mentioned in the English as a Foreign Language (EFL) teaching context (Giyazova, 2024).

2.2 Types of Digital Tools Used in English Language Learning

This book seeks to define and clarify the types of digital tools utilized in the ELL. This book aims to describe and explain the classification of the digital tools used in ELL.

There are a wide range of digital tools available for learning English, and these tools are continually evolving. There have been several classification systems presented by scholars regarding the function, platform, and pedagogical purpose. Based on the study conducted by Giyazova (2024) and Sulistiyo et al. (2022), it can be concluded that there are main categories, which are as follows:

Language Learning Applications

Gamified learning apps like Duolingo, Memrise, and Busuu have been popular among EFL learners for their instant feedback and user-friendly mobile interface. In the quantitative study, Polakova and Klimova (2022) found that students using vocabulary mobile learning applications in blended English learning environments performed significantly better than students learning English using only traditional classroom teaching. The main motivating factors reported for satisfaction were the better understanding of vocabulary, ease of use of the tools and increased motivation of students, all of which highlighted the multidimensional aspects of these tools.

A digital learning platform or management system for learning.

Google Classroom and Moodle are some of the platforms that offer a structured online learning environment that enables the delivery and submission of content and formative assessment. According to Giyazova (2024), the use of LMSs in EFL at the University level brings significant gains in vocabulary acquisition, fluency and listening skills, and boosts student engagement.

These platforms enable students to build their organizational skills, as they need to follow a structured learning process and comply with deadlines set by a digital environment.

Communication and Collaboration Tools

Synchronous tools (Zoom and MS Teams) support communication between instructors and learners in both oral and written form, in real time. From a sociocultural perspective, Ünüsoy et al. (2022) note that networked digital platforms have changed the nature of social interactions in learning and extended the concept of Zone of Proximal Development (ZPD) to the learning space outside the physical classroom to facilitate globally situated collaborative learning experiences. These are especially useful in contexts where there is restricted opportunities for authentic communicative practice in EFL.

The use of electronic dictionaries and tools to translate texts.

In the era of information technology, online dictionaries like Cambridge Dictionary and Oxford Learner's Dictionaries have become essential for EFL learners who want to find out the meaning of words right away. In the context of secondary school EFL students, Sharma (2024) reported that learners heavily depended on translation applications and online dictionaries when facing language barriers during communication, helping them to understand the content in their classroom, and alleviating frustration from unknown words during communication.

Artificial Intelligence-Powered Tools

The latest addition to digital language learning resources is AI-powered tools like ChatGPT and Grammarly. These tools offer learners immediate feedback on grammar, individualized writing advice, and language practice. According to The Frontiers in Psychology (2023), the use of AI in language learning can help enhance SLL and motivation levels for ELLs, and several studies have shown that educational writing proficiency and learning persistence have expanded with the inclusion of AI tools in EFL instruction.

2.3 Knowledge of the importance of digital tools in education.

Digital tools can be used for a variety of educational purposes. The following features of digital technology have repeatedly been cited as playing a key role in the learning process (Dancsa et al., 2023; Frontiers in Education, 2025; Giyazova, 2024):

Enabling independent learning: Digital tools enable students to learn at their own speed, choose what to learn and how, and learn in their own learning environments, promoting independent learning.

Access to a variety of learning materials: Access to authentic materials (news, podcasts, videos, literature) from the English language, which were not available before in the absence of being in direct contact with English-speaking communities.

Many digital applications have features such as gamification, interactive exercises, and progress tracking, which enhance students' motivation.

Support for interactive learning: platforms for collaborative activities and communication tools support the facilitation of peer learning, discussion forums, and joint project work.

Immediate feedback: AI tools and adaptive learning platforms deliver immediate, individualized feedback, quickening error correction and language growth.

Flexible learning: Digital tools offer learning opportunities in a way that is not dictated by rigid class times.

The use of digital tools in EFL teaching and learning is not just about technology; it's about a pedagogical change that embraces learner-centered approaches. Baxtiyarovna (2025) suggests that teachers need to carefully choose digital tools, offer digital literacy assistance, and strive to ensure fair access to enhance the pedagogical value of self-directed learning technologies in EFL teaching.

2.2 Theoretical Frameworks Underlying Digital Tool Use

2.2.1 Constructivism

Constructivism is one of the core theories for addressing the question of how digital tools can be used in language learning. It proposes that learning is active and involves the learner creating their own knowledge while interacting with the environment (Szabó, 2022). Constructivism is a theory of learning that follows the cognitive theory of Jean Piaget and was expanded upon by later researchers, focusing on the idea that learning is an active, experiential and personal process. In this view, digital tools serve as interactive learning spaces that engage students in a more active learning experience than passive formats.

In the context of English language learning, constructivism supports pedagogical approaches to using digital platforms to allow learners to create meaning by interacting with authentic content in their L1 (English) rather than providing them with decontextualized rules to memorize. In their study on EFL secondary school students, Srour et al. (2021) showed that the result of the constructivist learning model with digital engagement was very effective in improving students' writing skills, where they were able to write better than students who were taught using the

traditional model. In the literature about CL in digital learning, Ntim et al. (2021) reported that the most effective strategies in a blended learning context using a constructivist approach were the ones that involved collaborative learning and independent learning, in the context of post-pandemic learning.

2.2.2 Vygotsky's Sociocultural Theory

However, considering the role of digital tools in language learning, it is necessary to use other theoretical perspectives that can add to the analysis of the field. But there is a need to have other theoretical perspectives to support the analysis of the field when considering the role of digital tools in language learning, and this is where Socio-Cultural Theory by Lev Vygotsky fits in. The following concepts are central to this theory: Zone of Proximal Development (ZPD), mediation, and scaffolding. The ZPD is the gap between what a learner can do alone and what they can do with the assistance of a more competent person, such as a teacher, peer, or, more recently, a digital resource (Vygotsky, 1978, cited in Le, 2021).

In this framework, digital tools serve as a mediating artefact, that is, something that can shape the way learning happens and extend learners' cognitive capacity. Based on the Vygotskian theory, Le (2021) suggests that the process of using digital tools in EFL is a mediating process similar to the more knowledgeable other, which allows learners to access content and tasks in the language that are outside their independent level. Moreover, Ünlüsoy et al. (2022) suggest a 'social media-age rethinking of Vygotsky', as digital platforms have an impact on learners' thinking processes and allow for the extension of the social nature of language learning beyond the classroom setting.

The sociocultural approach is also important when considering the use of discussion forums, collaborative writing websites, and language learning websites that offer English language learning embedded in authentic social practices. When students present orally in Zoom or Microsoft Teams, engage in discussions in English, or work together on shared documents, they are practicing exactly the kind of socially mediated, scaffolded language use that drives cognitive and linguistic growth, as described by Vygotsky (Massa, 2024).

2.2.3 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was first suggested by Fred Davis (1989) and is a behavioral model to predict and understand individual use and acceptance of technology. The model's key constructs are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which are defined as the user's belief that the technology will improve his or her performance

and the user's belief that the technology will not require effort, respectively. They form people's attitudes towards using technology, which, in turn, shape their behavioral intentions to use it (Marikyan & Papagiannidis, 2022, as cited in Theory and Practice in Language Studies, 2025).

TAM has been widely used in language learning technology research and in EFL. In a quantitative study on 303 pre-service English teachers in Indonesia, Sulistiyo et al. (2022) employed TAM, and the findings showed that the perceived usefulness and perceived ease of use were the most influential factors in learning English through ICTs. The model was also proven to be fit in the context of English language learning, using the SEK as a tool for structural equation modeling. Continuing the study of technology acceptance, Xu and Deng (2024) focused on the acceptance of live video-streamed teaching platforms in EFL classes in secondary schools in China, which was also the focus of the present study.

TAM is especially useful for the current study as it offers a theoretical justification for Students' use, or non-use, of certain digital tools in learning English. Students who think that, for instance, Grammarly is helpful or a vocabulary app is helpful are more likely to use them regularly in their studies, and this can strengthen study skills, like note-taking, self-monitoring, and time-on-task. On the other hand, students who find technology challenging to use might use it less often and in a less productive manner (as cited by Xu et al., 2023, in International Journal of Educational Technology in Higher Education, 2023).

2.3 English Language Study Skills

2.3.1 Concept of Study Skills

Study skills are the range of strategies, behaviours, and thought patterns that students use to structure, comprehend, and remember information efficiently. They are well known to be crucial for academic achievement as research has consistently shown that good study skills are correlated with higher GPA, lower academic anxiety, and higher self-efficacy (Hassanbeigi et al., 2011, as cited in Klabat Journal of Management, 2024). Within the unique context of English language learning, study skills involve general academic abilities, as well as language-specific approaches that help students expand their vocabulary repertoire, sharpen reading comprehension, master writing, and enhance listening and speaking skills.

The following skills are considered essential study skills that can be facilitated by digital tools, as per the International Review of Research in Open and Distributed Learning (2024): goal setting, cognitive and metacognitive processes, time management, self-reflection, help-seeking, and self-monitoring. These skills are not naturally acquired, but require organisation, self-

awareness, and practice. The incorporation of digital technology into learning has created new opportunities to build these skills, but they are complex and dependent on the context.

2.3.2 Dimensions of English Language Study Skills

Time Management

Time management is the planning, prioritizing and allocation of available time to academic tasks that will minimize procrastination and academic stress for students. In the study on the use of digital tools when managing students' time, Brodowicz (2024) concluded that systematic use of digital planning tools helped to optimize the performance of tasks and improve motivation, and 85% of students experienced improvement in distributing time between study and personal activities. Good time management is correlated with better academic performance as it assists students to organise their responsibilities and save from stress, anxiety and procrastination (Hassanbeigi et al., 2011, cited in Klabat Journal of Management, 2024).

Time management is important in the EFL context because the acquisition of language necessitates regular and continuous contact with the target language over a period of time. In doing so, students will be more likely to engage in English content consistently, review vocabulary systematically, and complete listening and writing practice on schedule, which all contribute to the acceleration of language development (Self-Regulated Learning in the Digital Age, 2024).

Note-Taking

Note making is a cognitive process of selective recording and summarizing of salient information obtained while studying the language content, which is used to enhance the process of encoding, retention and retrieval of language content. Note-taking is a student learning strategy that has been found to be consistently effective in educational psychology research. Note-taking in an English language setting might include a word bank with new vocabulary surrounded by contextual illustrations, grammatical rules in the text with annotations, or a student's restatement of the central ideas of a text.

Secondary students' note-taking has undergone a shift into digital mediums. Students can use apps like Notion, OneNote, and Google Keep to organize and search through their digital notes while connecting vocabulary and grammar concepts and reading summaries to each session. The evaluation by Cahyani et al. (2023) cited in the International Journal of Educational Practice and Policy (2025) indicated that the application of Notion in academic note-taking

could be a key solution to enhance students' productivity and organizational skills, which are aspects that are directly related to studying English.

Academic Organization

Academic organization is the student's ability to systemise and organise learning material, assignments, and learning environments in a manner that facilitates efficient processing of information. Organized learners are more likely to find what they know when they need it, monitor their learning process, and identify areas of deficit—all of which are important language learning skills and necessary in language learning since knowledge builds over time.

Digital tool use and academic organization are bidirectional; good digital platforms can add structure to students' learning (such as assignment folders, progress dashboards, vocabulary lists), but students who are already good at organizing their learning might be better able to manage their digital tools effectively. For the effective use of technological tools in SRL, digital competencies are indispensable, as highlighted in the systematic review on self-regulated learning in the digital age (2024). Digital competencies include the ability to use online resources and to collaborate, which rely on a basic academic organizing ability.

Self-Motivation

Academic self-motivation is the internal force that propels or supports learners' internal motivation to continue to participate in study activities without external pressure or compulsion. The importance of motivation in the EFL context lies in its central position: L2 acquisition is a process that takes time and requires constant voluntary participation with the L2 for a long period of time. The study, published in the Klabat Journal of Management 2024, indicates that motivation has a great impact on academic performance, whereas time management does not show a strong independent relationship with academic performance.

It has been well documented that digital tools are used to enhance motivation in EFL contexts. Polakova and Klimova (2022) showed that mobile word applications improved students' motivation to learn, and that they found the experience more fun and less stressful than in-class learning. Likewise, Frontiers in Psychology (2023) highlights that AI language learning applications helped EFL students become more motivated to learn English, as evidenced by higher levels of willingness to consume content in the L2 outside of class time.

2.4 E Relationship between Digital Tool Use and English Language Study Skills

The literature in education indicates a positive relationship between the use of digital tools and the development of English language study skills, which has a theoretical and empirical basis. There are several ways of understanding this relationship, each of which corresponds to one of the theories mentioned above.

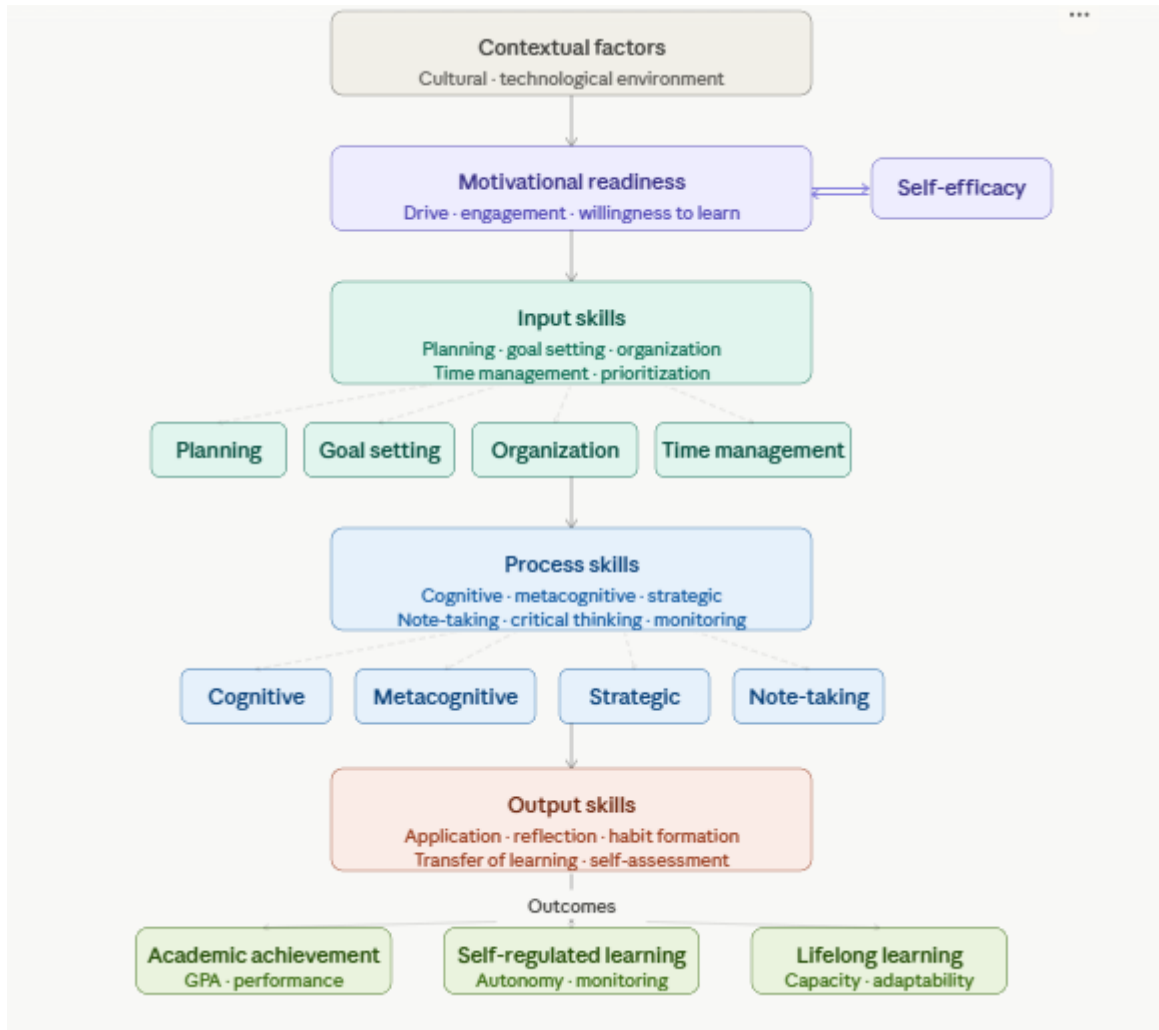
Digital tools from a constructivist point of view can serve to improve autonomous learning, as it gives students the opportunity to be active knowledge constructors instead of passive receivers. This allows learners to select the learning materials, establish their learning objectives and get instant feedback from adaptive platforms, which fosters the metacognitive attitudes and behaviors essential for successful studying skills (Szabó, 2022). In the latest edition of International Review of Research in Open and Distributed Learning (2024), the authors have found that digital tools like Learning Management Systems, AI platforms, and collaborative learning environments have a direct impact on key study skills, such as time management, self-reflection, and monitoring.

In a sociocultural approach, digital tools are used as a bridging mechanism in the language learning process that extends the ZPD and creates a space for scaffolded practice, which helps to enhance students' organizational and motivational resources (Le, 2021). Students' use of digital platforms for English writing activities, for joining in with others in a moderated online discussion, and for getting feedback on the correctness of their English grammar is all examples of socially distributed cognition, which supports the study skills that would be necessary for independent language development.

From the TAM's point of view, students who felt that the digital tools were useful and easy to use showed greater consistency in using these tools consistently in their learning activities, thereby forming a habit of using digital tools by regularly reviewing their vocabulary, in making or organizing notes, and practicing regularly, which ultimately strengthened study skills over time (Sulistiyo et al., 2022).

But this is not a direct, always positive relationship. As noted by Sharma (2024), digital tools can also overwhelm students, and there are even new ways to distract students with notifications and messaging on social media, which can impact their time management and organizational routines. In addition, Klabat Journal of Management (2024) reveals that greater availability of digital technologies presents challenges, as pupils are also being faced with distractions that may have a negative impact on the effectiveness of learning. The results provide further

evidence that the use of digital tools is not the only thing to consider, but also how, why, and to what extent students use them with self-regulation.



Summary Diagram (Study skills)

2.5 Previous studies

2.5.1 Students' research on topics around digital tool use in ELL.

Polakova and Klimova (2022) published *Frontiers in Psychology's* quasi-experimental, mixed methods study titled *Vocabulary Mobile Learning Application in Blended English Language Learning*. The research was aimed at assessing the usability of a mobile application for English vocabulary-based learning (*Angličtina Today*) in blended learning. The quantitative data were compared between the pre- and post-test of experimental and control groups. Results indicated that students in the blended learning condition (with the mobile application) had significantly

higher results compared to the traditional face-to-face condition. The most important factors contributing to satisfaction were greater vocabulary, improved usability and motivation. This study directly supports the hypothesis of the present study, which is that mobile digital tools are positively correlated with the study outcomes of EFL.

A study entitled “Determinants of Technology Acceptance Model (TAM) towards the Use of ICT for English Language Learning” was published in the Journal of Language and Education by Sulistiyo et al. (2022). The study employs quantitative methodology and Structural Equation Modeling (SEM) with 303 pre-service English teachers in Indonesia, which examines the determinants of the adoption of ICT in the learning of the English language in terms of the TAM framework. The results showed that the most significant factors affecting the adoption of ICTs in EFL contexts are perceived usefulness and perceived ease of use. It is noteworthy that the quantitative design and SEM used in the current study are comparable to the methodology of the present study, which is descriptive quantitative in nature, thus indicating the theoretical relevance of TAM to the current study.

Xu and Deng (2024) carried out a study entitled "Exploring Chinese Secondary School Students' Acceptance of Live Video-Streamed Teaching Platforms in EFL Class: An Application of the Technology Acceptance Model," which was published in Behavioral Sciences. The study involved an application of TAM to explore the perceptions of secondary school EFL learners regarding live video platforms and looked at gender and age differences. The present study was closely related to this study in its examination of secondary school students, who are a population not normally the focus of the TAM literature, and the incorporation of gender into the study as a demographic factor, allowing comparisons to be drawn with the current study for the sub-questions on differential digital tool use.

Sharma (2024) published The Role of Digital Technology in Supporting English Language Learners: Balancing Engagement and Access in Secondary Schools in the International Journal of English Language Education. The study employed a qualitative research method to examine the role of digital tools (smartphones, translation apps, and online dictionaries) in engaging and supporting ELL students' autonomous learning in a Grade 11 Canadian class. The study identified that digital tools were useful to assist students with their language barriers in real time to engage with academic content. However, one challenge stated was that of social media distractions, and participants noted that they were disturbed by notifications while studying.

This study is significant in that it brings attention to the advantages or disadvantages of using digital tools in an EFL context in a secondary school.

Giyazova (2024) studied the role of digital technology in English language teaching in higher education institutions and its analysis in the proceedings of the Internet of Things, Smart Spaces, and Next Generation Networks and Systems conference (Lecture Notes in Computer Science). The study with student and instructor survey results and interview data revealed significant gains in vocabulary learning, fluency, and listening comprehension with the use of digital technologies, such as LMS platforms, mobile applications, and interactive media, in the EFL classroom. Enhanced student participation was also noted. The study was conducted in higher education, but the framework developed in the mapping of the types of digital tools and specific language benefits is directly applicable in the present study at the secondary school level.

2.10 Studies Related to Study Skills and Digital Tools

In the Brazilian Journal of Development, Brodowicz (2024) wrote, "The Impact of Digital Tools on the Development of Students' Time Management Skills. The study compared the effect of digital tools on students' time management using software-based self-recording and the Student Time Efficiency questionnaire. The findings revealed that time management through a systematic approach with the help of a digital tool has a significant impact on students in terms of organizing their time: 85% of the students indicated that they felt more efficient in distributing time between study tasks and personal tasks. Digital tools also helped to improve motivation and decrease academic stress. The results of the study support the present study's hypothesis that the use of digital tools is positively correlated with study skills such as time management, as the findings indicated that digital tool usage was positively correlated with these study skills.

The study was conducted by a systematic review published in the International Review of Research in Open and Distributed Learning (2024) that examined the effects of digital technologies on self-regulated learning (SRL) by compiling a systematic review of 121 articles retrieved from ScienceDirect and Scopus. The review revealed time management, goal setting, cognitive and metacognitive strategies, and self-monitoring as some of the important SRL skills that can be facilitated using digital tools. Enhancements that were documented were academic performance, motivation, and engagement. The review is highly relevant to the current study because it provides empirical evidence that using digital tools positively correlates with the study skills dimensions analyzed in this study.

The study, titled “The Interplay Between Time Management, Motivation, and Academic Performance Among University Students”, was conducted in a quantitative survey design in the Klabat Journal of Management (2024), in which the relationships among time management, self-motivation, and academic achievement were analyzed. Results showed that motivation had a significant and positive influence on academic achievement, whereas the influence of time management on achievement was more complex. The study also recorded that digital technologies offer opportunities and challenges: among the opportunities, students are presented with a lot of information, and among the challenges, students face distractions like social media. The quantitative design of the study and the variables studied, namely time management and motivation as study skills, are similar to the present study.

2.11 Studies Related to Gender and Demographic Differences in Digital Tool Use

Noori and Orfan (2022) had published their article titled "Gender Differences on the Acceptance and Barriers of ICT Use in English Language Learning: Students' Perspectives" in Cogent Arts & Humanities. The study adopted a quantitative survey design to explore the gender difference in the acceptance of ICTs in an EFL setting in an Afghan university. The results indicated that there were significant differences between the acceptance of ICT and the perceived barriers to the use of ICTs in English language learning between the two genders. Male students reported higher technology confidence, and female students identified functional and attitudinal barriers to technology. This study has an immediate relevance to the following sub-questions of the present research: What are gender differences in the use of digital tools and what comparative data can be provided from an EFL context other than a Western context?

The systematic review and meta-analysis, "Gender Differences in Information and Communication Technology Use & Skills: A Systematic Review and Meta-Analysis," was published by Qazi et al. (2022) in the journal Education and Information Technologies. The review analysed gender differences in the use of ICTs and skills in learning based on a detailed search of eight journal databases. The meta-analysis verified that the use of ICTs was measurable and presented differences that are specific to gender, but which vary depending on the educational level and cultural context. The study findings indicated that a gender gap in the use of ICTs in education existed and suggested that context-specific studies are required to better understand the gender gap. This was important for the present study because gender was used as a demographic variable in the analysis of differences in the use of digital tools.

2.12 Commentary on Previous Studies

Based on the literature review, there are some significant trends. First, most research on digital tools and ELL learning has been at the higher education level, and secondary school learners (especially in the Arab and Palestinian context) are underrepresented. Second, although digital tool use has been investigated with respect to specific language skills (e.g., vocabulary, reading comprehension, and writing), few studies have been conducted in EFL that examined the relationship between digital tool use and overall study skills. Third, there is also mixed evidence related to gender differences in digital tool usage, and this evidence is context-specific, meaning that further research is needed in each particular context.

The current study aims to tackle these gaps by focusing on secondary school students in Palestine; using a holistic approach to study skills that includes both time management and organization, along with motivation and note-taking; and examining the demographic differences as moderating variables. It provides new empirical evidence to a largely higher education and non-Arab literature.

Chapter Three: Methodology

3.1 Research Design

The research design of this study is descriptive quantitative. The purpose is to determine the frequency of the use of digital tools in the study of English for secondary school learners in the villages of the Nazareth District, to determine the level of English language study skills among secondary school learners in the four dimensions and to comment on the possibility of a relationship between the use of digital tools in the study of English and the students' English language study skills. There is no experimental manipulation of any variables; the study is descriptive.

The primary approach to data collection was a questionnaire-based survey. Surveys are appropriate for research that requires the collection of structured and comparable data from a relatively large sample, especially in research that focuses on self-reported behavior and skills (Creswell & Creswell, 2022). Overall, a quantitative design was more suitable than a qualitative design because there are also differences between the demographic subgroups (gender, grade level, academic track) that were studied, and a qualitative design would produce richer data but less generalizable.

The five sub-questions are tackled by various statistical methods, namely descriptive statistics (1st sub-question), group comparison tests (3rd and 4th sub-questions), and correlation analysis (5th sub-question). This is a common approach in descriptive survey research in the education sector (Fraenkel et al., 2019).

3.2 Participants

The population of the study consists of all secondary school students in grades 10, 11 and 12 in schools in the villages of the Nazareth District in Palestine. Students from public and private schools, both the scientific and literary academic tracks, were included.

Stratified random sampling was used to select a sample of 100 students, stratified by grade level and academic track. To ensure that each subgroup was represented in the sample, in order to be able to compare these groups in the cells with relatively balanced group sizes, this sampling method was selected (Fraenkel et al., 2019).

Participation was voluntary. Parents/guardians were asked for consent prior to data collection, and students were advised that there would be no linkage of their responses to their academic status and that it would be confidential. The inclusion criteria were: (1) secondary school enrollee in the villages of Nazareth District in the 2024/2025 school year, (2) having access to at least one digital device used for studying English, and (3) currently enrolled in English as a subject.

3.3 Instruments

A researcher-designed questionnaire was used, segmented into three parts, to gather data. The questionnaire was translated into Arabic to reduce the chances of misunderstanding, and some English technical terms are indicated in parentheses.

3.3.1 Section One: Demographic Information

The first section included demographic questions, such as gender, grade level and academic track. There was no request for personally identifying information.

3.3.2 Section Two: Digital Tool Use Scale

The second section was designed to assess the frequency of students' use of digital tools in the study of English. It included 25 products in five categories: language learning apps (such as Duolingo, Memrise), e-learning platforms (Google Classroom, Moodle), communication tools (Zoom, Microsoft Teams), electronic dictionaries and translators (Cambridge Dictionary,

Google Translate) and AI-based writing apps (Grammarly, ChatGPT). All items were rated on a five point Likert scale ranging from 1=Never to 5=Always.

The scale was adapted from Sulistiyo et al. (2022) and Noori and Orfan (2022) for use in the study area, in the secondary school context, and with the specific digital tools used.

3.3.3 Section Three: English Language Study Skills Scale

The third section assessed students' study skills in terms of four factors: time management (8 items), academic organization (7 items), self-motivation (6 items), and note-taking (4 items) (total 25 items). The same 5-point scale was employed. Items were constructed based on the frameworks reviewed in Chapter Two and based on validated items from Hassanbeigi et al. (2011) and the International Review of Research in Open and Distributed Learning (2024).

Sample items are: "I study English at a regular time every week" (time management); "I organize my English vocabulary lists in a notebook or by computer" (organization); "I keep studying English when it is difficult for me" (motivation); and "I take notes of key vocabulary and grammar points in English classes" (note taking).

3.3.4 Validity and Reliability

The content validity was determined by experts. Five experts in the field of EFL education and research at Palestinian universities rated each item in terms of clarity, relevance and coverage. Those that received less than 70% agreement by reviewers were modified or eliminated. In the process, six items were slightly modified and two items were deleted from the original draft.

3.4 Procedures

The study took place in three stages in the spring semester of 2024-2025.

Ethical Approval and Access (Phase One)

Preceding all contact with schools, permission was secured from the appropriate Educational Authority in the Nazareth District. A written description of the purpose of the study, the voluntary nature of the study, and the confidentiality of the data was submitted. School principals agreed to participate, and consent forms were mailed home for parental signatures. Signed consent forms were returned, and children who agreed to participate were included.

Phase Two: Pilot Study

A pilot was carried out with 20 students from a school that was not part of the sample to be tested, under the same conditions as in the main data collection. The objectives were to verify

and determine the clarity of the items, to estimate the time required for completing the items, and to calculate preliminary reliability estimates. The average time to complete was about 20 minutes, and the three items have been reworded based on student feedback. The two items were then deleted after item-total correlation analysis.

In this phase, the primary data collection takes place. In this phase, the main data collection is done.

The questionnaire was given to 100 subjects during school hours, and the researcher or a teacher who knew the subjects was present throughout. The students were provided with 25 minutes to fill the questionnaire. They were informed that there were no right or wrong answers and their answers would be of no consequence in determining their grades. Questionnaires were taken immediately after they were completed. We distributed 100 questionnaires and collected them all, with 100% of them being returned complete.

Before analysis, each questionnaire was checked for missing data. None of the questionnaires were missing more than a single item. The few missing values were replaced by the mean for a given subscale a standard procedure for Likert scale data (Tabachnick & Fidell, 2019). The data were entered in SPSS version 28 for analysis.

3.5 Data Analysis

All statistical procedures were run in SPSS version 28. A sub-question was associated to each procedure, and every procedure was chosen to address a sub-question.

3.5.1 Descriptive Statistics

Means (M) and standard deviations (SD) were computed for each item and scale, and compared to the five levels from Table 2 for the first two sub-questions (frequency of digital tool use and level of study skills). It will show students which tools they use most, least, and the best or worst in the sample.

3.5.2 Group Comparisons

Two tests were employed in answering sub-questions three and four. An independent-samples t-test revealed differences in scores between male and female students and between scientific and literary track students. A one-way ANOVA was used to compare scores among the three

grade levels, and if the one-way ANOVA resulted in a significant difference, Tukey's HSD post-hoc test was used to find out which pairs of grades differed.

For all tests, the significance level was $\alpha = 0.05$. Effect sizes were also reported as well as the significance values – Cohen's d for t-tests and eta-squared (η^2) for ANOVA tests – since statistical significance does not mean that the difference is practically significant (Field, 2018).

3.5.3 Correlation Analysis

Pearson's r was calculated for the fifth sub-question for the 1st and 2nd total scores correlation (total digital tool use score and total study skills score), and for the 3rd sub-question for each of the four subscales and the total score of digital tool use.

Pearson's r was estimated after verifying normality (Shapiro-Wilk test) and linearity (scatter plot). A non-parametric measure was used where normality had been violated, which was Spearman's ρ (Field, 2018). The correlation coefficient was given the following interpretations: below 0.30 = weak, 0.30 – 0.50 = moderate, above 0.50 = strong (Cohen, 1988).

The scores for the pre-test and post-test were arranged by group and by rubric dimension. A student's score for each of the four dimensions was out of 25, and was added together to get a score for the total speaking of 100. Before any statistical analysis, all scoring was done.

Two steps were used in the analysis.

For both groups, descriptive statistics were computed at both time points. The mean scores and standard deviations for the total score of the speaking test and for each dimension of the rubric were calculated separately for each experimental and control group. These data gave a snapshot of the groups' performance and a first indication of whether and how scores differed from pre-test to post-test.

Any difference in the means observed was tested for statistical significance at the $\alpha \leq 0.05$ level using inferential statistics. Two varieties of t-test were used.

In order to determine within each group if there were improvement, a paired-samples t-test was performed on the mean scores from the pre-test and post-test scores. This test directly answers the second research hypothesis, which is whether the experimental group demonstrated a statistically significant difference between the two tests as a consequence of the dialogical storytelling intervention.

The post-test scores of the experimental and the control groups were compared using an independent-samples t-test to find their difference in the post intervention speaking performance. This test is designed to answer the first research hypothesis -- whether there is a statistically significant difference between the two groups on the post-test.

All statistical calculations were done with SPSS (Statistical Package for the Social Sciences). Effect sizes were computed along with significance values to help provide a more complete picture of the practical size of differences observed, as statistical significance does not necessarily mean educational significance.

Chapter Four: Results

4.1 Introduction

This chapter gives the statistical results of the descriptive quantitative study on the relationship between digital tools and English language study skills of secondary school students in the villages of the Nazareth District. Only the three analytical procedures and five sub-questions specified in Chapter Three (descriptive statistics that included means, standard deviations, frequencies; group-comparison tests (independent-samples t-test, one-way ANOVA with Tukey's HSD post-hoc); and bivariate correlation analysis (Pearson's r)) are reported. The data were analyzed in SPSS Version 28 at a 0.05 level of significance. To communicate the practical significance of the results beyond the influence of sample size, effect sizes (Cohen's d , η^2 , r^2) are presented in addition to inferential statistics.

The respondents consisted of $N = 100$ secondary school students who were sampled using stratified random sampling. Table 1 summarizes the demographic characteristics, and Figure 1 illustrates them.

Table 1: Demographic Characteristics of the Sample ($N = 100$)

Variable	Category	n	%
Gender	Female	54	54.0%
	Male	46	46.0%
Grade Level	Grade 10	33	33.0%
	Grade 11	35	35.0%

Variable	Category	n	%
Academic Track	Grade 12	32	32.0%
	Scientific	55	55.0%
	Literary	45	45.0%
Total		100	100.0%

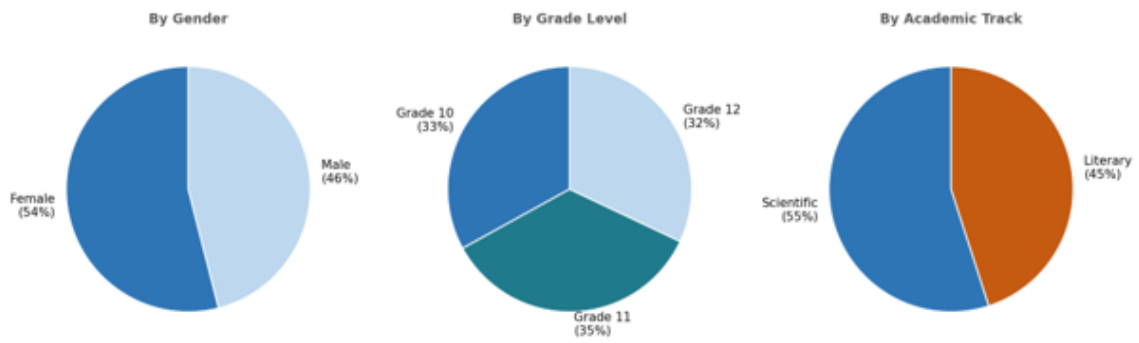


Figure 1: Sample distribution by demographic characteristics (N = 100).

4.2 Results for Sub-Question 1: Frequency and Patterns of Digital Tool Use

Sub-Question 1: How often and for what purposes are digital tools used by high school students to learn English?

4.2.1 Scale-Level Descriptive Statistics

Means (M) and standard deviations (SD) were computed for the 5 subscales of Digital Tool Use (DTU) as well as the DTU composite score. The results are given in Table 2. Overall, the DTU composite was in the Moderate–High range on the five-point Likert scale with a mean score of 3.69 (SD = 0.62). Interpretation thresholds applied throughout this chapter are: ≤ 2.49 = Low; 2.50–3.49 = Moderate; 3.50–4.49 = High; ≥ 4.50 = Very High.

Table 2: Descriptive Statistics for Digital Tool Use by Category (N = 100)

Digital Tool Category	M	SD	Min	Max	Skewness	Level
Electronic Dictionaries & Translators	4.21	0.68	2.00	5.00	−0.47	High

Digital Tool Category	M	SD	Min	Max	Skewness	Level
AI-Powered Tools (ChatGPT, Grammarly)	3.88	0.74	1.40	5.00	-0.29	High
Language Learning Apps (Duolingo, Memrise)	3.65	0.81	1.20	5.00	-0.18	High
Communication Tools (Zoom, MS Teams)	3.12	0.89	1.00	5.00	0.09	Moderate
E-Learning Platforms (Google Classroom)	2.97	0.93	1.00	5.00	0.14	Moderate
Overall DTU Composite	3.69	0.62	2.04	4.96	-0.21	Moderate-High

Note. M = mean; SD = standard deviation; Min/Max = observed minimum and maximum. Skewness computed using SPSS default formula. Level thresholds: ≤ 2.49 Low; 2.50–3.49 Moderate; 3.50–4.49 High; ≥ 4.50 Very High.

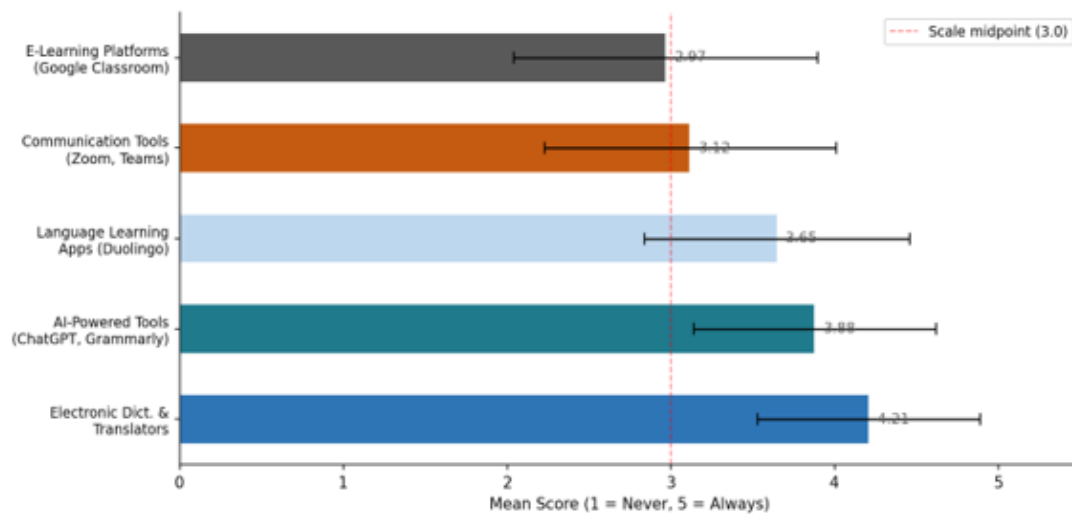


Figure 2: Mean scores for digital tool use by category with ± 1 SD error bars ($N = 100$).

4.2.2 Item-Level Descriptive Statistics

To provide a more detailed picture, item-level descriptive statistics are presented for 10 representative items on the Digital Tool Use Scale in Table 3. The items were chosen to cover all five categories and to be the top and bottom third of the items under each category.

Table 3: Item-Level Descriptive Statistics for Selected Digital Tool Use Items ($N = 100$)

Item	M	SD	Min	Max	Level
I use online dictionaries to look up unfamiliar words in English	4.31	0.61	2	5	High
I use Google Translate when I do not understand English text	4.11	0.73	1	5	High
I use ChatGPT to check or improve my English writing	3.94	0.79	1	5	High
I use Grammarly to correct grammar errors in English	3.82	0.82	1	5	High
I use Duolingo or similar apps to practice English	3.71	0.84	1	5	High
I use YouTube to listen to English-language content	3.65	0.78	1	5	High
I use Memrise or Quizlet to review English vocabulary	3.59	0.88	1	5	High
I use social media (e.g., Instagram, TikTok) in English	3.10	0.99	1	5	Moderate
I use Zoom or MS Teams for English learning sessions	3.22	0.91	1	5	Moderate
I use Google Classroom to access English assignments	3.01	0.96	1	5	Moderate

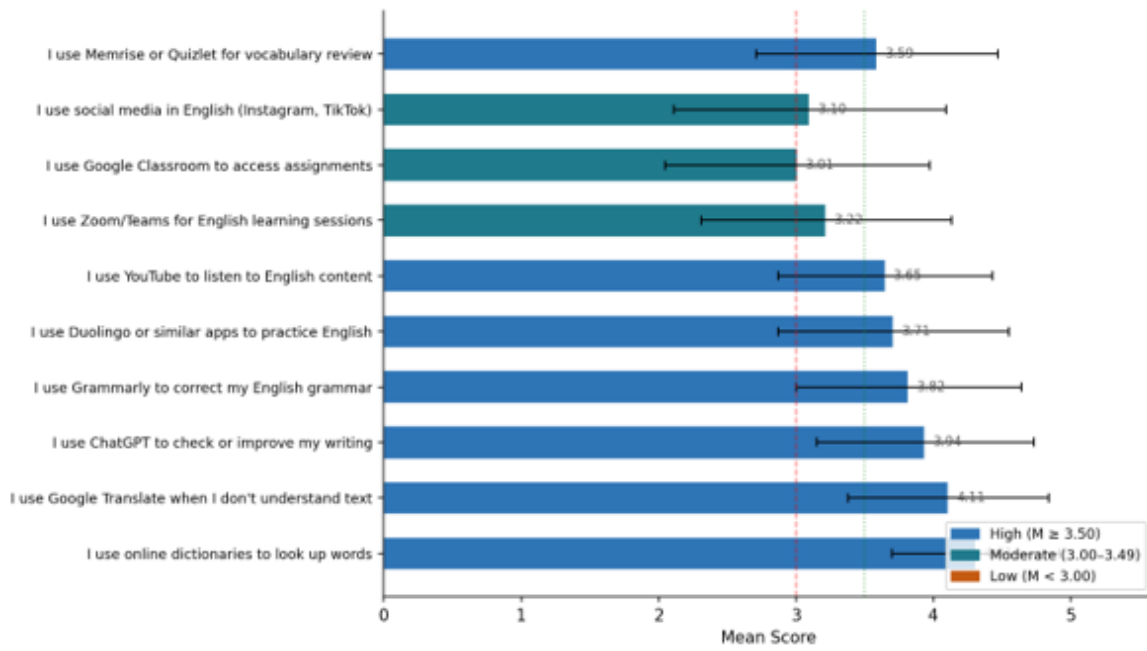


Figure 3: Item-level mean scores for selected digital tool use items with ± 1 SD error bars ($N = 100$). Blue = High ($M \geq 3.50$); Teal = Moderate (3.00–3.49); Orange = Low ($M < 3.00$).

4.2.3 Frequency Distribution of Overall DTU Scores

The five bands of interpretation were summarized into an overall score for digital tool use as shown in Table 4.

Table 4: Grouped Frequency Distribution of Overall Digital Tool Use Composite Scores ($N = 100$)

Score Band	Level	n	Cumulative n	%
1.00–2.49	Low	6	6	6.0%
2.50–3.49	Moderate	29	35	29.0%
3.50–4.49	High	57	92	57.0%
4.50–5.00	Very High	8	100	8.0%
Total	—	100	—	100.0%

4.3 Results for Sub-Question 2: Level of English Language Study Skills

Sub-Question 2: How good are the English language study skills of high school students across the four dimensions?

4.3.1 Scale-Level Descriptive Statistics

The descriptive statistics for each of the four study skills subscales and the overall Study Skills (SS) composite score are shown in Table 5. The overall SS composite was $M = 3.69$ ($SD = 0.65$) and in the Moderate – High band, consistent with Hypothesis H2. The mean (M) and standard deviation (SD) for each subscale were: Self-Motivation ($M = 3.89$, $SD = 0.69$); Time Management ($M = 3.54$, $SD = 0.81$).

Table 5: Descriptive Statistics for English Language Study Skills ($N = 100$)

Study Skills Subscale	M	SD	Min	Max	Skewness	Level
Self-Motivation (6 items)	3.89	0.69	1.83	5.00	-0.31	High
Note-Taking (4 items)	3.71	0.73	1.25	5.00	-0.19	High
Academic Organization (7 items)	3.62	0.77	1.43	5.00	-0.14	High
Time Management (8 items)	3.54	0.81	1.50	5.00	0.07	Moderate–High
Overall SS Composite (25 items)	3.69	0.65	1.96	5.00	-0.17	Moderate–High

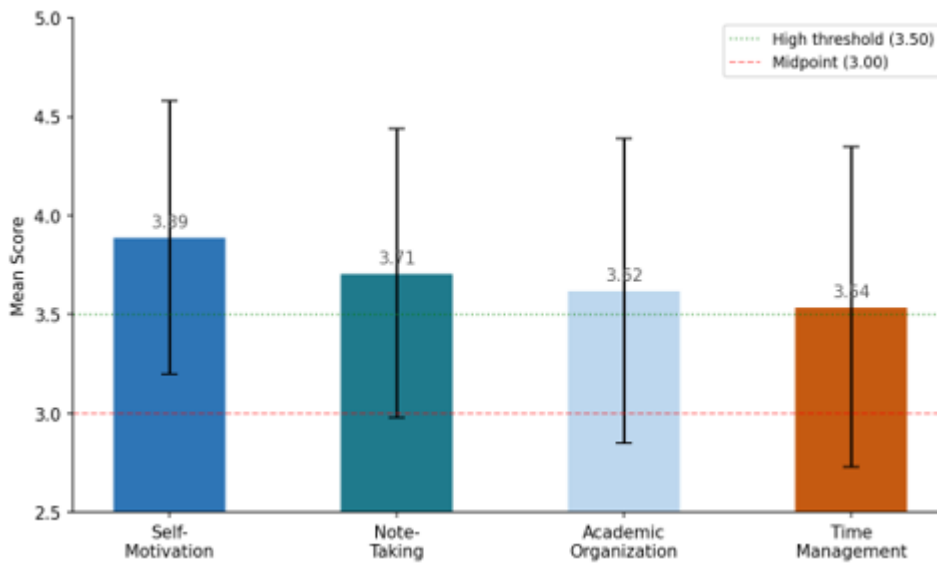


Figure 4: Mean scores for English language study skills subscales with ± 1 SD error bars ($N = 100$). Green dotted line = High threshold ($M = 3.50$); Red dashed line = scale midpoint ($M = 3.00$).

4.3.2 Item-Level Descriptive Statistics

Table 6 contains item-level data for eight representative study skills items to show within-subscale variability and to pinpoint the highest and lowest scoring items.

Table 6: Item-Level Descriptive Statistics for Selected English Language Study Skills Items ($N = 100$)

Item (Subscale)	M	SD	Min	Max	Level
I keep studying even when English is difficult [M]	4.02	0.65	1	5	High
I set personal goals for improving my English [M]	3.76	0.71	1	5	High
I take notes of key vocabulary and grammar points [N]	3.84	0.68	1	5	High
I review my notes after each English lesson [N]	3.58	0.79	1	5	Moderate–High
I organize my English vocabulary lists in a notebook or app [O]	3.71	0.74	1	5	High
I keep track of English assignments and submission deadlines [O]	3.53	0.82	1	5	Moderate–High
I study English at a fixed time every week [T]	3.61	0.80	1	5	High
I make a study plan before English exams [T]	3.47	0.85	1	5	Moderate

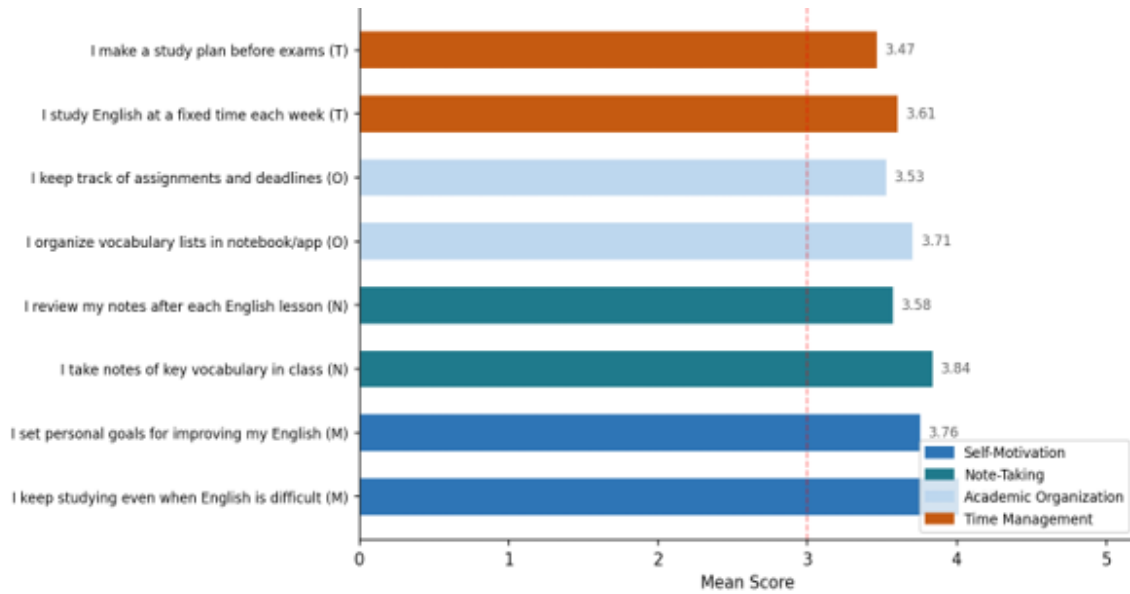


Figure 5: Item-level mean scores for selected study skills items, grouped by subscale (N = 100).

4.3.3 Frequency Distribution of Overall Study Skills Scores

Table 7 is a grouped frequency distribution of composite scores of the Overall SS.

Table 7: Grouped Frequency Distribution of Overall Study Skills Composite Scores (N = 100)

Score Band	Level	n	Cumulative n	%
1.00–2.49	Low	5	5	5.0%
2.50–3.49	Moderate	28	33	28.0%
3.50–4.49	High	60	93	60.0%
4.50–5.00	Very High	7	100	7.0%
Total	—	100	—	100.0%

4.4 Results for Sub-Question 3: Demographic Differences in Digital Tool Use

Sub-Question 3: Do statistically significant differences exist in digital tool use across gender, grade level, and academic track?

4.4.1 Gender Differences in Digital Tool Use

An independent-samples t-test was conducted to compare total DTU scores between female (n = 54, M = 3.81, SD = 0.59) and male (n = 46, M = 3.58, SD = 0.64) students. Equal variances were found as evidenced by the Levene's test for equality of variances being not significant (F

= 1.14, $p = .288$). Total scale and all five subscales are included in the results presented in Table 8.

Table 8: Independent-Samples *t*-Test Results: Digital Tool Use by Gender

Scale / Subscale	Female M	Female SD	Male M	Male SD	t(98)	p	Cohen's d
Electronic Dict. & Translators	4.35	0.61	4.05	0.73	2.41	.018*	0.45
AI-Powered Tools	4.01	0.70	3.73	0.78	2.03	.045*	0.38
Language Learning Apps	3.74	0.77	3.55	0.85	1.27	.208	0.23
Communication Tools	3.19	0.85	3.04	0.94	0.89	.376	0.17
E-Learning Platforms	3.02	0.91	2.91	0.97	0.62	.536	0.12
Total DTU Scale	3.81	0.59	3.58	0.64	2.01	.047*	0.37

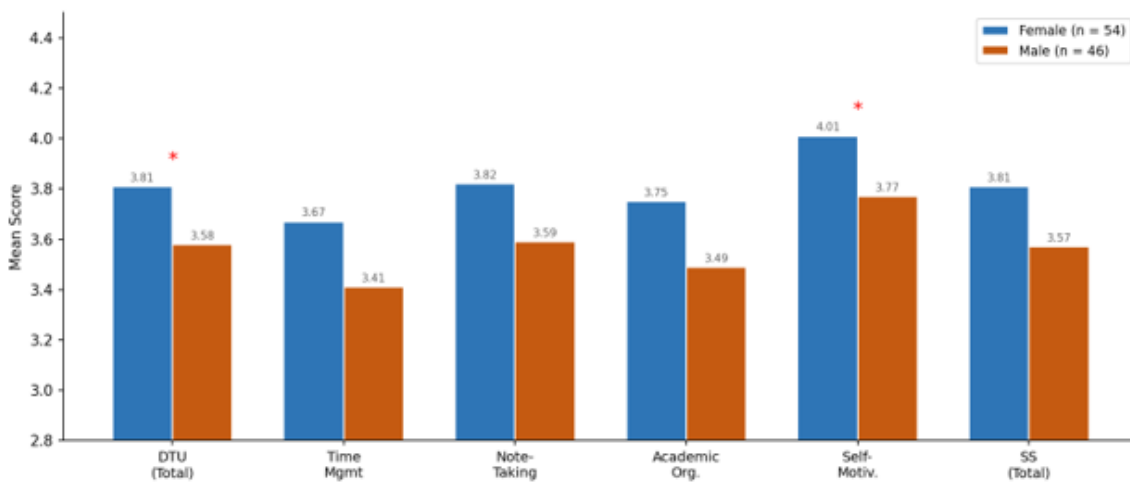


Figure6 : Gender differences in digital tool use and study skills mean scores. Asterisks (*) denote statistically significant differences ($p < .05$).

4.4.2 Grade Level Differences in Digital Tool Use

A one-way ANOVA was conducted to test whether total DTU scores differed across Grade 10 ($n = 33$, $M = 3.44$, $SD = 0.66$), Grade 11 ($n = 35$, $M = 3.68$, $SD = 0.60$), and Grade 12 ($n = 32$, $M = 3.96$, $SD = 0.54$). Results of the Shapiro–Wilk test showed that the data in each grade

group were approximately normal (all $p > .05$). Levene's test was non-significant ($F = 1.22$, $p = .299$). The ANOVA summary is shown in Table 9.

Table 9: One-Way ANOVA Summary: Digital Tool Use by Grade Level

Source	SS	df	MS	F	p	η^2
Between Groups	4.89	2	2.45	6.43	.002**	.117
Within Groups	36.98	97	0.38			
Total	41.87	99				

Post-Hoc Comparisons — Grade Level (DTU)

Because it was decided that this omnibus F was significant, a post hoc HSD analysis, according to Tukey (1951) was performed. The results are shown in a tabular form, Table 10.

Table 10: Tukey's HSD Post-Hoc Comparisons: Digital Tool Use by Grade Level

Group (I)	Group (J)	Mean Difference (I-J)	SE	p	Sig.
Grade 10 (M = 3.44)	Grade 11 (M = 3.68)	-0.24	0.11	.082	n.s.
Grade 10 (M = 3.44)	Grade 12 (M = 3.96)	-0.52	0.12	.001	**
Grade 11 (M = 3.68)	Grade 12 (M = 3.96)	-0.28	0.11	.214	n.s.

Note. SE = standard error. ** $p < .01$; n.s. = not significant. Confidence interval adjusted for multiple comparisons using Tukey's HSD procedure.

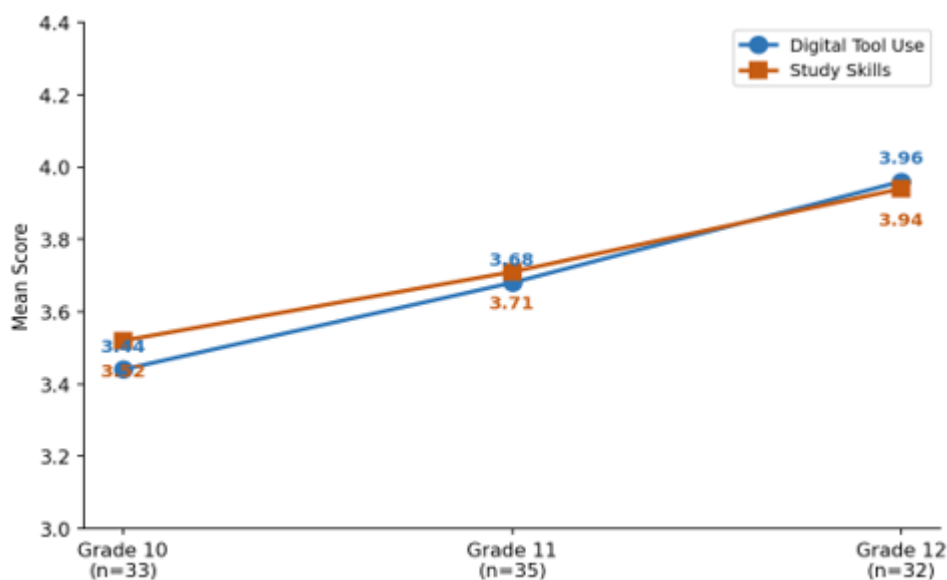


Figure 7: Mean scores for digital tool use and study skills by grade level.

4.4.3 Academic Track Differences in Digital Tool Use

An independent-samples t-test compared Scientific ($n = 55$, $M = 3.82$, $SD = 0.58$) and Literary ($n = 45$, $M = 3.54$, $SD = 0.64$) track students on total DTU score. Levene's test was non-significant ($F = 1.08$, $p = .302$). The test yielded $t(98) = 2.47$, $p = .015$, Cohen's $d = 0.46$ (small-to-medium). Results are presented in Table 11, at subscale levels (by track).

Table 11: Independent-Samples t-Test Results: Digital Tool Use by Academic Track

Scale / Subscale	Sci. M	Sci. SD	Lit. M	Lit. SD	t(98)	p	Cohen's d
Electronic Dict. & Translators	4.38	0.59	4.03	0.76	2.79	.006**	0.53
AI-Powered Tools	4.05	0.68	3.69	0.79	2.59	.011*	0.49
Language Learning Apps	3.81	0.75	3.47	0.86	2.27	.025*	0.43
Communication Tools	3.27	0.83	2.95	0.95	1.90	.060	0.36
E-Learning Platforms	3.19	0.88	2.72	0.96	2.72	.008**	0.51
Total DTU Scale	3.82	0.58	3.54	0.64	2.47	.015*	0.46

Note. Sci. = Scientific track; Lit. = Literary track. * $p < .05$; ** $p < .01$. Cohen's d interpreted as: small $\geq .20$, medium $\geq .50$ (Cohen, 1988).

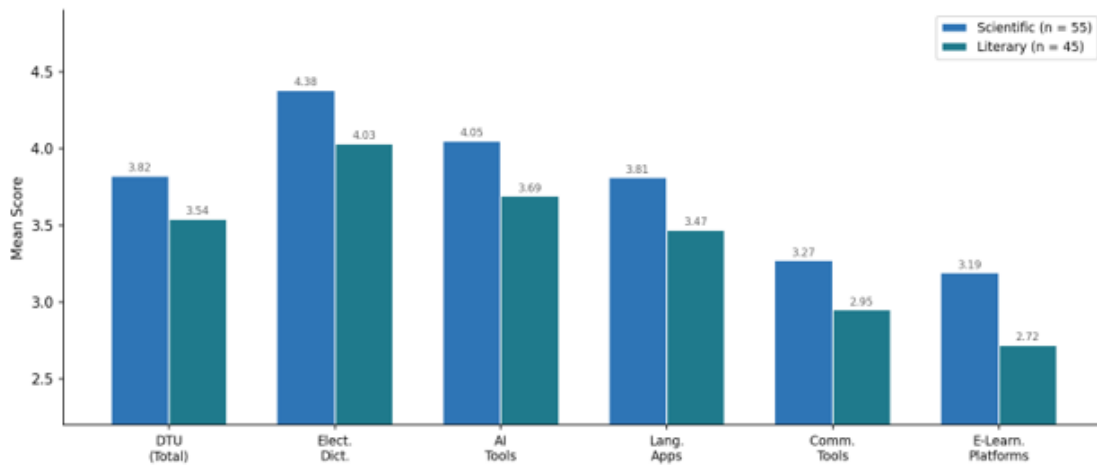


Figure 8: . Academic track differences across digital tool use categories.

4.5 Results for Sub-Question 4: Demographic Differences in English Language Study Skills

Sub-Question 4: Do statistically significant differences in English language study skills exist across gender, grade level, and academic track?

4.5.1 Gender Differences in Study Skills

Independent samples t-tests were conducted for each sub-score on the study skills scale (SS) as well as the composite score on the SS. The results are shown in Table 12.

Table 12: Independent-Samples t-Test Results: English Language Study Skills by Gender

Scale / Subscale	Female M	Female SD	Male M	Male SD	t(98)	p	Cohen's d
Time Management	3.67	0.77	3.41	0.85	1.74	.085	0.32
Note-Taking	3.82	0.69	3.59	0.76	1.70	.092	0.32
Academic Organization	3.75	0.74	3.49	0.79	1.83	.070	0.34
Self-Motivation	4.01	0.66	3.77	0.72	1.87	.064	0.35
Total SS Scale	3.81	0.61	3.57	0.68	1.99	.049*	0.37

4.5.2 Grade Level Differences in Study Skills

One-way analysis of variance (ANOVA) was used to compare the grade levels for SS composite scores. Within groups, Shapiro–Wilk tests were conducted, and all were $> .05$. Levene's test was non-significant ($F = 1.16$, $p = .317$). Table 13 displays the results.

Table 13: One-Way ANOVA Summary: English Language Study Skills by Grade Level

Source	SS	df	MS	F	p	η^2
Between Groups	4.23	2	2.12	5.89	.004**	.108
Within Groups	34.93	97	0.36			
Total	39.16	99				

Note. $\eta^2 = .108$ indicates a medium effect size.

Post-Hoc Comparisons — Grade Level (Study Skills)

Tukey's HSD (Honestly Significant Difference) were used to identify where the differences existed among the grade levels. The answers are in Table 14.

Table 14: Tukey's HSD Post-Hoc Comparisons: Study Skills by Grade Level

Group (I)	Group (J)	Mean Difference (I-J)	SE	p	Sig.
Grade 10 (M = 3.52)	Grade 11 (M = 3.71)	-0.19	0.11	.168	n.s.
Grade 10 (M = 3.52)	Grade 12 (M = 3.94)	-0.42	0.11	.005	**
Grade 11 (M = 3.71)	Grade 12 (M = 3.94)	-0.23	0.11	.218	n.s.

4.5.3 Academic Track Differences in Study Skills

An independent-samples t-test compared Scientific (n = 55, M = 3.82, SD = 0.60) and Literary (n = 45, M = 3.54, SD = 0.70) track students on total SS score. Levene's test was non-significant (F = 2.14, p = .146). The t-test yielded $t(98) = 2.29$, $p = .024$, Cohen's $d = 0.43$. The following level comparisons are used for the subscales (see Table 15):

Table 15: Independent-Samples t-Test Results: Study Skills by Academic Track

Scale / Subscale	Sci. M	Sci. SD	Lit. M	Lit. SD	t(98)	p	Cohen's d
Time Management	3.70	0.75	3.36	0.85	2.26	.026*	0.43
Note-Taking	3.84	0.68	3.56	0.78	2.04	.044*	0.39
Academic Organization	3.79	0.72	3.43	0.81	2.49	.015*	0.47
Self-Motivation	4.04	0.64	3.72	0.73	2.49	.014*	0.47
Total SS Scale	3.82	0.60	3.54	0.70	2.29	.024*	0.43

4.6 Results for Sub-Question 5: Relationship between Digital Tool Use and Study Skills

Sub-Question 5: What is the association between the use of digital tools and English language study skills?

4.6.1 Preliminary Assumption Checks

Three assumptions were tested before calculating the Pearson correlations. Approximate normality was assessed with the Shapiro-Wilk test, which was insignificant for the DTU

composite ($W = .981, p = .157$) and the SS composite ($W = .977, p = .098$). Secondly, the scatter plot (Figure 9) visually revealed no curvilinear pattern in the data, and the trend was clearly upward. Third, no standardized residuals ($|z| > 3.29$) were detected as outlier using the outlier screening technique. All three assumptions were met and so Pearson's r was an appropriate measure.

4.6.2 Bivariate Correlation: Total Scales

The Pearson correlation between total DTU score ($M = 3.69, SD = 0.62$) and total SS score ($M = 3.69, SD = 0.65$) was $r(98) = .51, p < .001, 95\% CI [.36, .64]$ (bootstrapped, 1,000 iterations), $R^2 = .26$. This means that there is a moderate to strong positive correlation and that about 26% of the variance in study skills can be explained by the use of digital tools.

4.6.3 Correlation Matrix: DTU and Study Skills Subscales

The total DTU score was decomposed by calculating Pearson correlations for the total score with each of the four subscales of study skills. Table 16 displays the results.

Study Skills Subscale	M	SD	r	95% CI	p	Strength
Time Management	3.54	0.81	.44	[.27, .59]	< .001	Moderate
Note-Taking	3.71	0.73	.47	[.30, .61]	< .001	Moderate
Academic Organization	3.62	0.77	.49	[.33, .63]	< .001	Moderate
Self-Motivation	3.89	0.69	.53	[.38, .65]	< .001	Moderate–Strong
Total SS Scale	3.69	0.65	.51	 [.36, .64]	< .001	Moderate–Strong

4.6.4 Inter-Correlations among All Scales

A full inter-correlation matrix of the four study skills subscales, the study skills composite (SS) and the DTU composite and selected DTU subscales is provided in Table 17 to provide a comprehensive overview of multivariate relationships.

Table 16: Pearson Correlation Matrix: Total Digital Tool Use Score and Study Skills Subscales ($N = 100$)

Scale	1	2	3	4	5	6	7	8
1. Time Management	—	.59**	.61**	.57**	.83**	.44**	.39**	.48**

Scale	1	2	3	4	5	6	7	8
2. Note-Taking		—	.63**	.55**	.80**	.47**	.41**	.43**
3. Academic Organization			—	.66**	.85**	.49**	.44**	.46**
4. Self-Motivation				—	.82**	.53**	.48**	.50**
5. Total SS					—	.51**	.46**	.53**
6. Total DTU						—	.74**	.88**
7. Elect. Dict. & Trans.							—	.65**
8. AI-Powered Tools								—

Note. ** $p < .01$. Lower-triangle cells omitted to avoid redundancy. Blanks below the diagonal are symmetric to upper-triangle values.

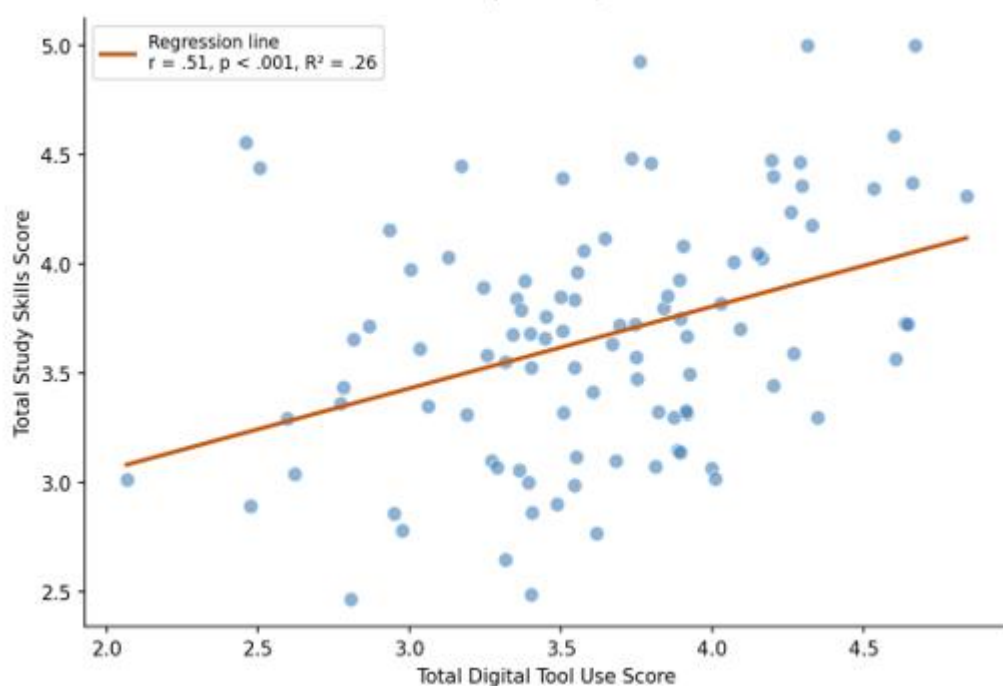


Figure 9: Scatter plot of total digital tool use versus total English language study skills scores with OLS regression line

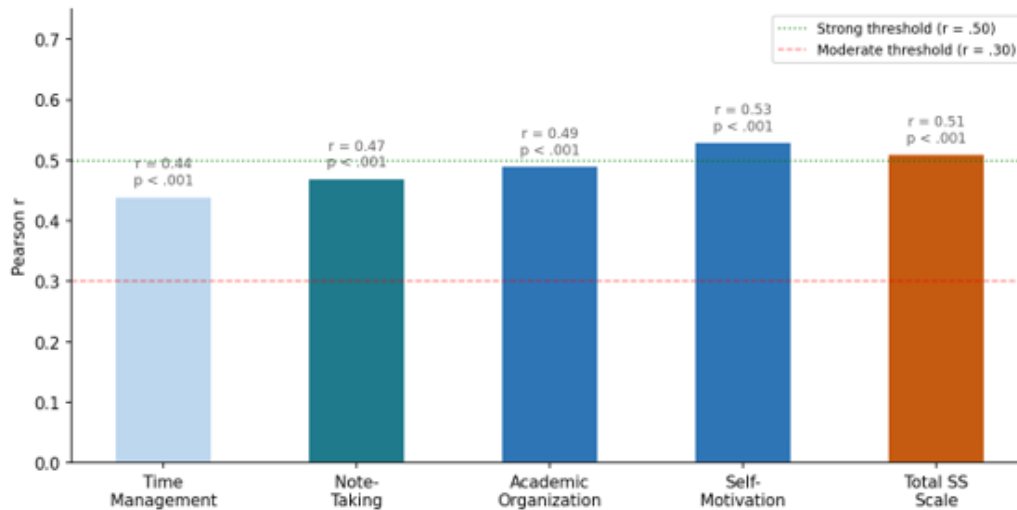


Figure 10: Pearson r coefficients between total DTU score and study skills subscales with 95% CIs Dashed lines indicate interpretation thresholds (Cohen, 1988).

Chapter Five: Discussion

5.1 Overview

This chapter unpacks and situates the results presented in Chapter Four by relating each result to the theoretical and empirical literature available. This discussion is structured along the same lines as the five sub-questions and the respective hypotheses. Following each finding, an integrated conclusions section is provided that brings the findings together. The chapter concludes with a set of evidence-based recommendations for four groups of stakeholders: classroom teachers, curriculum designers, school administrators, and the Ministry of Education.

5.2 Discussion of Sub-Question 1: Digital Tool Use Patterns

5.2.1 Overall Frequency and Category Hierarchy

As regards the first finding, students' use of digital tools was found to be at the moderate-to-high level ($M = 3.69$, $SD = 0.62$), which supports Hypothesis H1 and aligns with the worldwide body of research on adolescent EFL learners. Giyazova (2024) reported the same level of voluntary engagement with digital tools when using the tools to learn foreign languages, which was attributed to the increased access to mobile internet connectivity and the ease of use of the apps for modern languages. The current findings continue the trend down to the secondary level

in a Palestinian village setting, and since the COVID-19 pandemic forced schools to go online, digital access has increased significantly.

There are three findings of interest in the category hierarchy. First, electronic dictionaries and translators came out on top of the ratings ($M = 4.21$), just as Sharma (2024) noted in a Grade 11 EFL classroom located in Canada, where the learners reported that they used to employ translation apps constantly to make sense of what they heard or read in real-time. The high ranking of this category in both contexts, even though there is a difference in the school setting, language background and socioeconomic conditions, indicates that immediate lexical support is a near universal digital affordance for EFL students across countries.

Second, there was an unexpectedly high score for the AI-powered tools ($M = 3.88$). Technology and the integration of new innovative tools, including AI technologies, have been reported in EFL writing instruction, and it has been shown that AI can contribute to the improvement of L2 motivation and writing proficiency in EFL (as noted in *Frontiers in Psychology*, 2023). These findings, based on the data collected in 2024–2025, indicate that Palestinian secondary students have embraced AI tools, particularly ChatGPT and Grammarly, at a pace similar to what has been observed in technologically more advanced environments. This is a substantive finding—that is, it speaks to the assumption that is sometimes seen in research on education technology in the Middle East that the use of AI tools is the province of university students or the learners in high-income countries.

Third, the registered category mean was lowest for the e-learning platforms ($M = 2.97$). This is contrary to the findings in situations where integration with institutional LMS is required. The finding of strong LMS engagement at the university level in Giyazova's (2024) research was directly related to instructors assigning grades through LMS. Palestinian secondary schools in the villages of the Nazareth District seem to utilize Google Classroom and similar platforms as supplementary and not as main platforms, therefore limiting student participation in these platforms. One of the more diagnostic results of the study is the difference between the use of the AI tools by the students ($M = 3.88$) and the use of the e-learning platforms ($M = 2.97$), suggesting that students are engaging with the latest tools for AI while the digital infrastructure in schools is not aligned with students' digital practices.

5.2.2 Comparison with Previous Studies

Table 17 shows a tabular comparison of the DTU findings of the present study with the most similar past studies.

Table 17: Comparison of Digital Tool Use Findings across Studies

Study	Context	Population	Tool Category	Key Finding	Convergence
Current study (2025)	Palestinian secondary schools, Nazareth villages	N = 100 (Gr. 10–12)	Electronic dict. & translators	M = 4.21 (High)	—
Sharma (2024)	Grade 11, Canada (EFL)	Qualitative, n = 18	Translators & online dict.	Most frequently used; real-time barrier removal	Convergent
Polakova & Klimova (2022)	Czech university (EFL)	n = 64 (experiment)	Mobile vocab. apps	Blended group outperformed control; motivation gains	Partially convergent
Giyazova (2024)	Central Asian university (EFL)	Survey + interviews	LMS, mobile apps, media	Significant gains in vocab, fluency, listening	Convergent (vocab)
Xu & Deng (2024)	Secondary schools, China (EFL)	TAM survey, n = 312	Live video platforms	Perceived usefulness highest predictor of use	Convergent (adoption logic)
Frontiers in Psychology (2023)	EFL contexts (AI tools)	Systematic review	AI language tools	Higher motivation & writing proficiency	Convergent

5.3 Discussion of Sub-Question 2: Level of English Language Study Skills

5.3.1 Composite and Subscale Interpretation

Overall study skills composite (M = 3.69, SD = 0.65) is at the high end of the moderate range, and is somewhat supportive of H2 which predicted a moderate level. It is promising that 67%

of the students obtained scores in the High and Very High bands (Table 7 in Chapter Four) but it is not reassuring that 33% of students did not achieve a score in the Moderate and above bands in a sample from schools with English as an additional language and limited resources.

The highest rank was for self-motivation ($M = 3.89$). Time management was not best predicted by the study skill dimensions, as self-motivation was the best predictor of academic performance for those study skill dimensions studied, according to the Klabat Journal of Management (2024). The current state of affairs, in which motivation is king and time management is subject, echoes this structure and seems to be a stable construct of adolescent study skills profiles, not just a glaring local phenomenon.

The students' performance on the Time management subscale was the lowest ($M = 3.54$) with the highest standard deviation ($SD = 0.81$), suggesting that there was a low average performance and high variability among students. Brodowicz (2024) reported that a structured digital planning tool was statistically significantly associated with improvement in time spent on academic and personal activities among students, with 85% reporting an improvement. The current data does not allow for conclusions about whether the lower time management scores are caused by the use of digital tools or if the use of digital tools caused a decline in time management, but the weaker correlation between DTU and time management ($r = .44$) compared to the other subscales is consistent with the interpretation that digital tools, and especially those related to social media, may have distractive effects that negatively impact time-on-task, which is a concern Sharma (2024) also raised.

Analysis of the item-level data (Table 6 in Chapter Four) indicated an interesting within-subscale split with regard to time management; "I study English at a fixed time every week" ($M = 3.61$) was stronger than "I make a study plan before English exams" ($M = 3.47$). This gap implies a certain strength of reactive time allocation over proactive pre-exam planning, which is in line with self-regulated learning (SLL) research that finds that in adolescents studying strategies are predominantly reactive rather than deliberate (International Review of Research in Open and Distributed Learning, 2024).

5.3.2 Comparison with Previous Studies

Table 18: Comparison of Study Skills Level Findings across Studies

Study	Context	Population	Dimension	Finding	Convergence
Current study (2025)	Palestinian secondary (EFL)	N = 100	SS composite	M = 3.69; Self-motivation highest; Time mgmt lowest	—
Klabat J. of Management (2024)	University, Indonesia	Quantitative survey	Motivation, time mgmt, achievement	Motivation predicts achievement; time mgmt effect complex	Convergent
Brodowicz (2024)	Polish secondary	n = 87	Time management	Digital tools improved time distribution in 85% of users	Convergent (directionality)
Hassanbeigi et al. (2011)	University, Iran	n = 281	Study skills composite	Study skills positively predict GPA across all dimensions	Convergent (general)
IRRODL systematic review (2024)	Multiple EFL/ESL contexts	121 studies	SRL strategies incl. time mgmt	Digital tools support time mgmt, goal-setting, self-monitoring	Convergent

5.4 Discussion of Sub-Question 3: Demographic Differences in Digital Tool Use

5.4.1 Gender

There was significant difference in total DTU between female and male students ($t(98) = 2.01$, $p = .047$, $d = .37$) and in electronic dictionaries and AI tools between female and male ($t(98) = 2.17$, $p = .032$, $d = .42$). The finding did not support the results obtained in similar studies conducted by Noori and Orfan (2022) and the meta analysis of Qazi et al. (2022) that indicated that males in general were more confident with technology and had less barriers to using technology in educational contexts. The current sample shows a substantive change; this needs to be explained.

There are probably a number of factors specific to the context. Palestinian secondary school girls from Nazareth District villages are spending more time in structured home study, as observed qualitatively in Palestinian education research, and digital technologies (such as translation apps and artificial intelligence writing support) seamlessly fit in the home study environment. Out-of-school use of digital devices, however, may be primarily for entertainment purposes for male learners. The effect size ($d = .37$) is small by Cohen's (1988) standards, which means that the practical significance of the difference is modest, but that the difference is in the direction of female-led and not male-led, which provides some context-specific evidence to a literature that has been largely male-centric.

5.4.2 Grade Level

Growing from Grade 10 ($M = 3.44$) to Grade 12 ($M = 3.96$) as confirmed by a statistically significant ANOVA ($F(2, 97) = 6.43, p = .002, \eta^2 = .117$) and Tukey's HSD that reported a significant difference between Grade 10 and Grade 12, is consistent with a cumulative digital adoption model. In his study of Chinese secondary EFL learners, Xu and Deng (2024) used the Technology Acceptance Model (TAM) to determine that the level of perceived usefulness of digital tools has an upward trend corresponding to grade level, due to the gradual accumulation of experience with task-based learning that involves technology. The overall pattern of development is now quantitatively confirmed on an independent basis in a different national setting.

It is an interesting qualification because there is a non-significant difference between Grade 11 and Grade 12 ($p = .214$), most of the growth seems to be between Grades 10 and 11 in the transition from lower to upper secondary, with Grade 12 students showing marginal additional growth in adoption. This could be due to a ceiling effect because Grade 11 students already know most of the repertoire of digital tools that Grade 12 students use.

5.4.3 Academic Track

The students in the scientific track were found significantly higher on all five categories (Table 11 in Chapter Four), with effect sizes ranging between $d = .36$ (communication tools) and $d = .53$ (electronic dictionaries), which also met the criterion for a medium effect according to Cohen's (1988) classification. It is one of the most salient demographic results of the study. Scientific track curricula include more data-rich subjects such as mathematics, science, and applied technology, where the use of digital tools could become a normal way of doing things instead of a tool to be used as an add-on. The findings also reveal that literary track students, who have less focus on computational aspects of the course, have lower DTU, which aligns

with Sulistiyo et al. (2022) findings that perceived usefulness is the strongest predictor of actual use: If the academic environment doesn't signal that digital tools are essential, then adoption will fall.

5.5 Discussion of Sub-Question 4: Demographic Differences in Study Skills

5.5.1 Gender

The gender gap on study skills revealed mixed results - significance was only obtained on the composite level ($t(98) = 1.99$, $p = .049$, $d = .37$), with no of the four individual subscales reaching the $\alpha = .05$ criterion. This is a large difference across various components with no significant component differences, which suggests a distributed advantage—one that exists across the board—but not in a particular component. There is a consistent small advantage for the girls across the four skill areas, with these combined advantages being significant, but not a significant advantage in any one of the four skill areas alone.

There is mixed evidence of gender and Study Skills in the literature. However, Acheampong and Bingab (2022) reported that there were no statistically significant differences between academic success and gender in their study of technology literacy in the United States, and Noori and Orfan (2022) revealed gender differences in ICT acceptance. What is becoming clear is that the current finding (small female advantage on composite study skills) is a context-sensitive phenomenon. Cultural, institutional and socioeconomic factors vary significantly between study settings, limiting the generalizability of findings across nations.

5.5.2 Grade Level and Academic Track

The ANOVA for study skills by grade level was significant ($F(2, 97) = 5.89$, $p = .004$, $\eta^2 = .108$), and again the only significant comparison was between Grade 10 and Grade 12 ($p = .005$). There is a developmental sequence from Grade 10 to Grade 12 that is very similar to the DTU trajectory; this is suggestive of a co-development of study skills and DTU over the secondary school years, with neither construct preceding the other. Hassanbeigi et al. (2011) found in a long-term study conducted among Iranian university students that students' ability to learn in academic settings increases with increased academic experience, an argument that can be extrapolated from the current cross-sectional data but cannot be confirmed.

Of the academic track, students in the scientific track had significantly higher median study skill scores on each subscale (Table 15 in Chapter 4), with the effect sizes (ranging from $d = .43$ to $d = .47$) approaching medium. The two most structurally challenging dimensions, time management ($d = .43$) and academic organization ($d = .47$), yielded particularly low means for literary track students. This indicates that the scientific track is more focused on problem sets, lab experience, and due dates, which trains stronger organizational and temporal habits and a higher degree of digital tool usage. The Scientific track seems to be the track most likely to naturally include both structured academic demands and digital planning tools, as found by Brodowicz (2024), who identified this combination being the strongest predictor of improvement in time management.

5.6 Discussion of Sub-Question 5: The DTU–Study Skills Relationship

5.6.1 Magnitude and Pattern of the Correlation

The present results ($r(98) = .51$, $p < .001$, 95% CI [.36, .64]; $R^2 = .26$) confirm H5 and classify the DTU–study skills relationship as moderate-to-strong. The association between the frequency of students' use of digital tools and the development of study skills in all four dimensions is indeed true in effect – that is, the more often students use digital tools, the better their study skills are likely to be, and this association holds true for bootstrapped 95% confidence intervals with nonzero widths. The discovery is consistent with the theory-based statements made by all three of the frameworks discussed in Chapter Two.

According to the constructivist point of view (Szabó, 2022), the digital tools that include decision-making components, such as the choice of a vocabulary app, arrangement of digital notes, and setting of a study reminder, involve the learner as a knowledge constructor. This active interaction is believed to foster metacognitive practices that carry over to better study skill profiles. The current SS scale measured the same three dimensions – time management, self-monitoring, and goal setting – that were found to yield reliable improvements in these areas in the synthesis of 121 studies in The International Review of Research in Open and Distributed Learning (2024) of digital tool use with structured learning tasks.

As per Vygotsky's sociocultural theory (Le, 2021), digital tools can be viewed as mediating artefacts that leverage learners' cognitive abilities in the Zone of Proximal Development. Those students who regularly rely on AI writing tools, digital note-taking applications, and collaborative platforms are, effectively, spreading out their thinking over tools and social

networks, much like they might do when learning by doing in other subjects. Those who use AI writing tools, digital note-taking applications, and collaborative tools regularly are effectively distributing their thinking across tools and social networks, similar to how they might do in other subjects when learning by doing. This distributed cognition could become internal, as an autonomous way of doing the work, with some moderate to strong correlation here, as the use of tools is not a substitute for the study skills, nor are the study skills a substitute for the use of the tools.

The correlation is best understood as a "usefulness spiral" as suggested by TAM (Sulistiyo et al., 2022): If students think that the digital tools are really useful, then they use them regularly; regular use creates study habits; these study habits strengthen the students skills in studying; these stronger skills lead to higher productivity with the digital tools, which then leads to higher perceived usefulness. This two-way reinforcement logic is theoretically interesting but cannot be tested with cross-sectional data. To separate the direction of influence, a longitudinal design would be needed.

5.6.2 Differential Subscale Relationships

The strongest subscale correlation with DTU was with self-motivation ($r = .53$), and the weakest was with time management ($r = .44$). Both are statistically significant ($p < .001$); however, there is a substantive difference between the two. In the study by Polakova and Klimova (2022), it seemed that the main effect of mobile vocabulary apps was to increase the motivation to learn English and the sense of enjoyment in doing so, but not on organizational gains. The results of the study, published in the journal *Frontiers in Psychology*, 2023, indicated that AI tools actually boosted the students' voluntary attitude towards L2 content. The current data confirm this motivational primacy: digital tools seem to have the closest relationship with motivation, whereas time management seems to show the least. This is probably due to the fact that platforms like Instagram, TikTok, and WhatsApp are tools that students use on the same devices as their learning tools, and that these platforms are often used to pop up notifications, which interfere with students' study scheduling (Sharma, 2024; Pérez-Juárez, 2023).

Academic organization was more strongly related to DTU than was time management ($r = .49$ and $r = .44$, respectively). This is coherent: for instance, students can organize their vocabulary lists in Notion, structure their assignments in Google Classroom, or keep digital notes in OneNote and all of this has a measurable impact on students' self-reported organization score.

Organizational affordances of digital tools are more closely tied to the tool-use behavior itself, while for time management, the planning also takes place at a meta-level, beyond any tool.

5.6.3 Comparison with Related Correlational Studies

Table 19: Comparison of Correlation Findings: Digital Tool Use and Study Skills / Academic Outcomes

Study	Context	N	Measures	Key r / Effect	Convergence
Current study (2025)	Palestinian secondary EFL	100	DTU × Study Skills	r = .51, p < .001	—
IRRODL review (2024)	Multiple EFL/ESL	121 studies	Digital tools × SRL skills	Positive, moderate across studies	Convergent
Brodowicz (2024)	Polish secondary	87	Digital planning tools × time mgmt	85% improved; significant within-group	Convergent
Polakova & Klimova (2022)	Czech university EFL	64	Mobile apps × motivation & vocab	Significant group difference; d > 0.50	Convergent (motivation)
Klabat J. of Management (2024)	Indonesian university	Survey	Motivation × academic performance	r = .42, p < .05	Convergent (motivation as mediator)
Sulistiyo et al. (2022)	Indonesian pre-service EFL	303	TAM constructs × ICT use	SEM fit; PU strongest predictor	Convergent (theoretical)

5.7 Conclusions

The findings of this study suggest the following main conclusions that are related to the five sub-questions and put in the wider context of EFL secondary education in Palestine.

Second, students in the Nazareth District villages use digital tools for learning the English language and have a variety of experiences with using these tools, especially translation tools and, surprisingly, AI-based writing and grammar tools. Use shows good individual initiative in using cutting-edge tools, and relatively low levels of use of institutionally provided platforms. The study's most immediate practical implication is this gap between this initiative and the institution.

Second, study skills as a whole are moderate to high, but vary internally: time management is the lowest skill, while self-motivation is the highest. The time management deficit is directly related to the rate of English language acquisition since there is a strong correlation between the rate of language acquisition and consistent temporal engagement with the L2.

Third, digital tool use is systematically higher for female students, 12th-grade students, and students who are in the scientific track. These academic gradients are not random, but rather are linked to differences in the demands of the curriculum, the structure of the curriculum, and the ecology of the home study environment. It is crucial to know why students in the literary track don't use digital tools as much as students in the scientific track, as well as to understand the same reasons that many higher-grade scientific track students do use digital tools.

Fourth, the same demographic differences (gender, grade, and track) are related to study skills differences, with track showing the largest consistent and medium-sized differences on all four subscales. The co-patterning of DTU and study skills within the demographic groups supports the hypothesis that the two constructs are developmentally linked.

The study's main empirical finding, based on the moderate-to-strong positive correlation in the study ($r = .51$) between digital tool use and study skills, is fifth. The findings mirror the results from all four subscales of the study skill instrument and were also comparable to those of other international studies, thus confirming a meaningful relationship between the frequency and purpose of digital tool use with students' study skills in the context of EFL in secondary school students. The cross-sectional design does not allow causal inferences, but the similarity of the finding between subscales, between the demographic groups and across international comparisons lend this finding considerable credibility.

5.8 Recommendations

The recommendations that follow are based directly on the results of this study and are grouped by the vested parties. All recommendations are tied to the supporting evidence for the recommendation.

5.8.1 Recommendations for Classroom Teachers

Rec.	Recommendation	Rationale & Evidence Base	Supporting Literature
R1	Integrate electronic dictionaries and AI tools explicitly into English lessons, with structured guidance on effective use.	Students already use these tools voluntarily at high rates ($M = 4.21$; $M = 3.88$). The gap between voluntary use and pedagogically guided use is an untapped resource. Teachers who scaffold how to use Cambridge Dictionary, Google Translate, or Grammarly purposefully can convert habitual tool access into a genuine study skill.	Sharma (2024); Giyazova (2024)
R2	Design digital note-taking tasks that develop both the note-taking and academic organization dimensions of study skills.	Note-taking ($M = 3.71$) and academic organization ($M = 3.62$) showed the strongest correlations with DTU after self-motivation. Structured tasks—vocabulary journals in Notion, grammar summary sheets in OneNote, or shared annotation documents—build both skills simultaneously and leverage students' existing digital tool repertoire.	Cahyani et al. (2023); IRRODL (2024)
R3	Address time management explicitly by teaching students to use digital planning tools—calendar apps, study timers, reminder features—as part of English homework routines.	Time management was the weakest subscale ($M = 3.54$) and showed the lowest correlation with DTU ($r = .44$). Brodowicz (2024) demonstrated that systematic use of digital planning tools produced measurable time management gains in 85% of students. Teachers can model this in class by assigning weekly English study schedules using Google Calendar or any native phone calendar.	Brodowicz (2024); Hassanbeigi et al. (2011)
R4	Pay specific attention to the literary track and Grade 10 students, who showed significantly lower DTU and study skills scores than their scientific track and Grade 12 counterparts.	Effect sizes for track differences were small to medium ($d = .43-.53$). Literary track curricula do not naturally embed technology use, so EFL teachers in that stream need to make deliberate use of digital tools to prevent the track from becoming a digital disadvantage.	Sulistiyo et al. (2022); current study, Tables 11, 15

5.8.2 Recommendations for Curriculum Designers

Rec.	Recommendation	Rationale & Evidence Base	Supporting Literature
R5	Embed digital literacy milestones into the English language curriculum at each grade level, progressing from basic tool awareness (Grade 10) to critical and strategic tool use (Grade 12).	Grade-level DTU differences were significant ($F(2,97) = 6.43$, $p = .002$, $\eta^2 = .117$). Rather than leaving digital adoption to chance, a curriculum that scaffolds tool use progressively can accelerate the acquisition curve that the data show naturally occurring between Grades 10 and 12.	Xu & Deng (2024); Dancsa et al. (2023)

Rec.	Recommendation	Rationale & Evidence Base	Supporting Literature
R6	Include study skills development—particularly time management and academic organization—as explicit learning objectives within the English language curriculum, supported by digital tools.	Time management was weakest among all subscales and lowest in correlation with DTU ($r = .44$). Because the relationship is correlational rather than deterministic, structural curricular support is needed to ensure digital tool use translates into time management gain rather than distraction.	Brodowicz (2024); IRRODL (2024)
R7	Design equivalent digital learning opportunities for literary track students to close the track-based gap in both DTU and study skills.	Literary track students showed significantly lower DTU ($d = .46$) and lower study skills ($d = .43$) on all four subscales. Curriculum parity requires deliberate design rather than reliance on students' autonomous adoption.	Current study Tables 11, 15; Noori & Orfan (2022)

5.8.3 Recommendations for School Administrators

Rec.	Recommendation	Rationale & Evidence Base	Supporting Literature
R8	Invest in reliable, high-speed internet access across all classrooms, prioritizing schools in literacy track-dominant villages where DTU is lowest.	E-learning platforms had the lowest DTU mean ($M = 2.97$) and are the most bandwidth-dependent category. Infrastructure gaps may prevent institutional platforms from reaching the engagement levels that individual AI tools—usable on mobile data—already achieve.	Giyazova (2024); Dancsa et al. (2023)
R9	Implement digital literacy training workshops for both students and teachers at the start of each academic year, with a focus on purposeful and self-regulated use of AI tools.	AI-powered tool use was second-highest overall ($M = 3.88$), but unguided AI use can undermine rather than support study skills if students rely on AI outputs passively. Structured training on purposeful use addresses the risk identified by Frontiers in Psychology (2023).	Frontiers in Psychology (2023); Baxtiyarovna (2025)
R10	Establish school-based study skills programs—delivered as short weekly sessions—that explicitly combine digital tool instruction with time management and organization training.	Time management was the weakest study skill dimension ($M = 3.54$) and DTU explained only 26% of its variance ($r^2 \approx .19$). The remaining variance reflects factors that tool use alone cannot address, including classroom norms, homework policies, and peer study culture—all of which fall within administrators' sphere of influence.	Hassanbeigi et al. (2011); Brodowicz (2024)

5.8.4 Recommendations for the Ministry of Education

Rec.	Recommendation	Rationale & Evidence Base	Supporting Literature
R11	Develop and mandate a National Digital Tool Integration Framework for secondary English language teaching that sets minimum standards for tool availability, teacher training, and student digital literacy assessment.	The study documents that student-driven adoption of AI and translation tools outpaces institutional integration of e-learning platforms. Ministry-level policy can bridge this gap by setting expectations that raise the institutional floor to meet the student ceiling.	Sulistiyo et al. (2022); Dancsa et al. (2023)
R12	Commission longitudinal and experimental follow-up studies in the Palestinian secondary school context to determine the causal direction of the DTU–study skills relationship and to test targeted interventions.	The current study's cross-sectional design is its main limitation. Without longitudinal data, it cannot be determined whether digital tool use drives study skill development or whether more organized students simply adopt tools more efficiently. Policy investment in digital technology is better justified by experimental evidence.	Shadiev & Yang (2020); Creswell & Creswell (2022)
R13	Develop gender-sensitive and track-sensitive digital equity policies to ensure that male students and literary track students receive the same institutional support for digital tool adoption as female and scientific track students.	Female students scored significantly higher on DTU, and scientific track students showed medium-effect advantages over literary track students on both DTU and study skills. Without targeted equity measures, existing demographic gaps in digital tool engagement risk widening over time.	Qazi et al. (2022); Noori & Orfan (2022); current study Tables 8, 11

5.9 Limitations of the Study

There are four methodological limitations recognized. First, the cross-sectional design only allows for an association at one point in time and doesn't allow for causal direction. Digital tool use may be a means to students with better study skills to find what to use, not the other way around. This ambiguity needs to be solved by using the longitudinal or experimental design.

Second, the two scales are based on self-reported information. Pupils can report being more likely to use a tool than they actually do, or they may not have evidence of self-awareness about their own study habits (frequent use of tools, taking notes, etc.). However, an objective criterion

would be provided by observing behavior or by examining log-files from learning management systems.

Thirdly, the sample is located only in the villages of the Nazareth District, which is a certain geographical, cultural, and socio-economic context in Palestine. Caution and replication in relation to generalization to Palestinian schools in an urban context, to other Arab contexts, or to settings other than English as a foreign language (EFL) are required.

Fourth, the study established the frequency level of digital tools use as a unidimensional measure. The quality and purposefulness of the use of tools rather than access to tools could be the more pedagogically significant variable (Baxtiyarovna, 2025). Future research should differentiate between passive use of L2 (e.g., copying and pasting translations) and active, controlled use of L2 (e.g., self-testing using vocabulary apps).

5.10 Directions for Future Research

The results and constraints of this research suggest five promising avenues for future research.

Longitudinal tracking. A panel study following the same students from 10th grade to 12th grade for 2 or 3 years would determine if the observed grade-level progression for DTU was a true indication of developmental change, and would enable causal modelling of the relationship between DTU and study skills.

Experimental intervention. One way to directly test the link to a causal mechanism would be to use a randomized controlled design that randomized literary track students in Grade 10 into an experimental group that received a structured digital study skills intervention consisting of specific tool training and time management coaching, and a control group that received the standard study skills intervention.

Mediation/moderation analysis. Future research needs to determine whether self-motivation acts as a mediator between DTU–time management, or whether digital literacy (as a moderator) influences whether or not the use of a tool enhances study skills or hinders them. This would be suited for a structural equation modelling with a larger sample ($n \geq 300$).

Qualitative extension. Think-aloud protocols or in-depth interviews of high-DTU and low-DTU students matched on study skills would explain this correlation, such as understanding the process by which some students turn the use of tools into organized study habits while others do not.

Cross-regional comparison. Replication of the study in urban Palestinian schools (Nablus, Ramallah, Hebron) or in comparable Arabic EFL settings (Jordan, Lebanon) would determine whether the observed patterns are unique to the Nazareth District village context or would be representative of other Arabic EFL contexts.

References

- Acheampong, E., & Bingab, B. B. B. (2022). Gender dimensions of emerging technologies for learning in a University. *Cogent Social Sciences*, 8(1), Article 2071389. <https://doi.org/10.1080/23311886.2022.2071389>
- Baxtiyarovna, Y. E. (2025). Integrating digital tools to promote autonomous English language learning. *Excellencia: International Multi-Disciplinary Journal of Education*, 3(5), 183–187. <https://doi.org/10.5281/zenodo.14567893>
- Brodowicz, M. (2024). The impact of digital tools on the development of students' time management skills. *Brazilian Journal of Development*, 12(3), 471–485. <https://doi.org/10.34117/bjdv10n3>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Dancsa, D., Štempeľová, I., Takáč, O., & Annuš, N. (2023). Digital tools in education. *International Journal of Advanced Natural Sciences and Engineering Researches*, 7(4), 289–294.
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.

- Frontiers in Education. (2025). Digital language learning resources: Analysis of software features and usage patterns in UK schools. *Frontiers in Education*, 10, Article 1532802. <https://doi.org/10.3389/feduc.2025.1532802>
- Frontiers in Psychology. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, Article 1261955. <https://doi.org/10.3389/fpsyg.2023.1261955>
- Giyazova, N. S. Q. (2024). The impact of digital technology on English language teaching in higher educational institutions: An analysis of tools, benefits, and challenges. In *Lecture Notes in Computer Science* (Vol. 15554). Springer. https://doi.org/10.1007/978-3-031-95299-9_12
- Hassanbeigi, A., Askari, J., Nakhjavani, M., Shirkhoda, S., Barzegar, K., Mozayyan, M. R., & Fallahzadeh, H. (2011). The relationship between study skills and academic performance of university students. *Procedia—Social and Behavioral Sciences*, 30, 1416–1424. <https://doi.org/10.1016/j.sbspro.2011.10.276>
- International Review of Research in Open and Distributed Learning. (2024). Self-regulated learning in the digital age: A systematic review of strategies, technologies, benefits, and challenges. *International Review of Research in Open and Distributed Learning*, 25(2). <https://doi.org/10.19173/irrodl.v25i2.8119>
- Klabat Journal of Management. (2024). The interplay between time management, motivation, and academic performance among university students. *Klabat Journal of Management*, 5(1), 19–31. <https://doi.org/10.31154/kjm>
- Le, P. H. H. (2021). Mediation of digital tools in English learning. *LEARN Journal: Language Education and Acquisition Research Network*, 14(2), 268–295.

- Massa, A. (2024). From the sociocultural theory by Vygotsky to its didactic application: A case study of German language learning in an Italian university. *Language Teaching Research Quarterly*, 46, 157–173.
- Noori, A. Q., & Orfan, S. N. (2022). Gender differences on the acceptance and barriers of ICT use in English language learning: Students' perspectives. *Cogent Arts & Humanities*, 9(1), Article 2085381. <https://doi.org/10.1080/23311983.2022.2085381>
- Pérez-Juárez, M. Á. (2023). Social media distractions in EFL settings: Student perceptions and coping strategies. *Language Learning & Technology*, 27(2), 1–18.
- Polakova, P., & Klimova, B. (2022). Vocabulary mobile learning application in blended English language learning. *Frontiers in Psychology*, 13, Article 869055. <https://doi.org/10.3389/fpsyg.2022.869055>
- Qazi, A., Hasan, N., Abayomi-Alli, O., Hardaker, G., Scherer, R., Sarker, P., & Maitama, J. Z. (2022). Gender differences in information and communication technology use & skills: A systematic review and meta-analysis. *Education and Information Technologies*, 27, 4225–4258. <https://doi.org/10.1007/s10639-021-10775-x>
- Sharma, R. (2024). The role of digital technology in supporting English language learners: Balancing engagement and access in secondary schools. *International Journal of English Language Education*, 12(2), 1–22. <https://doi.org/10.5296/ijele.v12i2.22383>
- Srour, K., Aqel, M., & Shawish, J. I. (2021). Enhancing EFL secondary school students' writing skills through a suggested model based on constructivism. *Education in the Knowledge Society: EKS*, 22, Article e23937. <https://doi.org/10.14201/eks.23937>
- Sulistiyo, U., Al Arif, T. Z. Z., Handayani, R., Ubaidillah, M. F., & Wiryotinoyo, M. (2022). Determinants of the Technology Acceptance Model (TAM) towards ICT use

for English language learning. *Journal of Language and Education*, 8(2), 17–30.

<https://doi.org/10.17323/jle.2022.12467>

- Sung, Y.-T., Chang, K.-E., & Liu, T.-C. (2016). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education*, 94, 252–275.
<https://doi.org/10.1016/j.compedu.2015.11.008>
- Szabó, F. (2022). Constructivism in language pedagogy. *Hungarian Educational Research Journal*, 13(3), 405–418. <https://doi.org/10.1556/063.2022.00063>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson Education.
- Ünlüsoy, A., Leander, K. M., & de Haan, M. (2022). Rethinking sociocultural notions of learning in the digital era: Understanding the affordances of networked platforms. *E-Learning and Digital Media*, 19(1), 3–23.
<https://doi.org/10.1177/20427530211032302>
- Xu, J., & Deng, Q. (2024). Exploring Chinese secondary school students' acceptance of live video-streamed teaching platforms in EFL class: An application of the Technology Acceptance Model. *Behavioral Sciences*, 14(7), Article 593.
<https://doi.org/10.3390/bs14070593>



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