



**FACHHOCHSCHULE
WIENER NEUSTADT**

Austrian Network for Higher Education

University of Applied Sciences

The role of Quizlet in vocabulary acquisition.

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"What I keep telling myself is that scientific research is not retrospectively rendered pointless just because the outcome is boring and predictable." David Mitchell



Popularity

Quizlet impact report

(<https://quizlet.com/blog/2019-impact-report>)

- Over 50 million monthly active users
- 130 countries
- 400m study sets
- 14bn study terms

Effectiveness?



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MarySid2

22 January 2020

SO I USED ALL THESE TIPS AND STILL FAILED MISERABLY. I CAN'T BELIEVE QUIZLET IS SO USELESS. I WORKED SO HARD TO PASS THIS AND STUDIED HOURS A DAY USING QUIZLET. THESE TIPS AND STUDY SETS ARE COMPLETE TRASH. LESSON LEARNED. QUIZLET IS A SCAM. IT'S JUST A WAY TO MAKE STUDENTS LAZY AND NOT ACTUALLY STUDY. IT JUST MAKES YOU FEEL GOOD BY DECEIVING YOU INTO THINKING YOU DID STUDY SOMETHING EFFECTIVELY BUT YOU STILL END UP FAILING.

MarySid2

22 January 2020

IF YOU WANT TO ACE TESTS AND PASS YOUR CLASSES STOP SLACKING OFF AND GET OUT SOME NOTECARDS. REAL LIFE ONES AND WRITE DOWN THE STUDY MATERIAL. QUIZLET IS A FAKE AND WON'T DO YOU ANY GOOD. IT'S A BUNCH OF GAMES FOR LITTLE KIDS THAT WON'T HELP YOU MEMORIZE WHAT YOU NEED TO AT ALL. TAKE MY ADVICE OR YOU MIGHT FAIL YOUR NEXT EXAM OR QUIZ. YOU NEED TO ACTUALLY STUDY, NOT PLAY GAMES LIKE MATCH AND GRAVITY. THAT'S A WASTE OF TIME, JUST LIKE ANY OTHER VIDEO GAMES. YOU'RE BASICALLY PROCRASTINATING AND MAKING EXCUSES. QUIZLET TRICKS YOUR BRAIN INTO THINKING YOU'RE STUDYING WHEN YOU'RE NOT. LEAVE NOW AND STOP BEING A LAZY FAILURE. GO STUDY FOR REAL. QUIZLET WON'T HELP. NOT TRYING TO BE HARSH OR ANYTHING, BUT THAT'S THE TRUTH. I KNOW FROM PERSONAL EXPERIENCE. I HAD TO LEARN THE HARD WAY.

useless
complete trash
a scam
a way to make students lazy
deceiving you
fake
bunch of games for little kids
won't help you memorize
not play games (match, gravity)
waste of time
procrastinating
making excuses
tricks your brain
go study for real
Quizlet won't help

quizlet.com/blog/7-steps-to-crushing-the-sie-exam (22 Jan. 2020); since deleted



Aims & scope

Three areas of interest

- How effective is Quizlet?
 - Esp. in terms of the various types of activity
- How does the context of use impact on activity choice?
 - Mobile phone vs PC
 - "On the hoof" vs stationary environment (e.g. home, library)
- How does learner competence impact activity choice?



Quizlet design

Seven self-study/self-test activities

- Match, Flashcard, Write, Learn, Test, Spell, Gravity
- Online & via mobile app (exc. Spell, Gravity)

Three basic test formats/study formats

- Flashcard
- Constructed response: require typed answer
- Selected response: multiple-choice, multiple matching, true/false

Recognition vs recall tasks

- Recognition: selected response
- Recall: constructed response & flashcard



Recognition vs recall activities

"Memory research shows that **recall may enhance the retention of L1 vocabulary [...] more than recognition.**"

(Nakata & Webb 2016, 7)

Recognition

- Match

Recall

- Flashcard, Write, Spell, Gravity

Mixed recognition & recall

- Learn, Test



Method: Subjects & setting

Survey 1	Survey 2
Tertiary business college	Tertiary business college
First-year, full time students	First-year students in evening classes
18 - 20 yrs	Early to mid 20ies
Pre-service	In-service (=in employment)
n=165	n=52
14-week Business English course	17-week Business English course



Method: Data collection

Survey 1 (2018/19)	Survey 2 (2019/20)
a. Frequency of Quizlet use (n=165) <ul style="list-style-type: none">• (276 entries)	a. Frequency of Quizlet use (n=52) <ul style="list-style-type: none">• (296 entries)
b. Vocabulary quiz (n=119) <ul style="list-style-type: none">• 24 items• Cronbach's $\alpha = 0.88$	b. Vocabulary quiz (n=52) <ul style="list-style-type: none">• 55 / 37 items• Cronbach's $\alpha = 0.94 / 0.82$
c. Oxford Online Placement Test (n=119)	c. Oxford Online Placement Test (n=52)
d. Questionnaire survey (n=100) <ul style="list-style-type: none">• Smartphone vs. PC/notebook• On the hoof vs. stationary	d. Questionnaire survey (n=29) <ul style="list-style-type: none">• Smartphone vs. PC/notebook• On the hoof vs. stationary



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Chapter 1

How effective is Quizlet?

(Esp. in terms of the various types of activity)



Multiple linear regression

Linear regression	Survey 1 (n=119)	Survey 2 (n=52)
<u>Dependent variable:</u>		
Vocabulary scores		
Variance	$r^2=0.192$	$r^2=0.210$
Anova	$F(3, 115)=9.107$ $p=0.000$	$F(3, 48)=4.257$ $p=0.010$
<u>Independent variables:</u>		
Recognition only	std beta=-0.038 $p=0.651$	std beta=0.003 $p=0.979$
Mixed recogn./recall	std beta=0.248 $p=0.004$	std beta=0.441 $p=0.005$
Recall only	std beta=0.372 $p=0.000$	std beta=0.484 $p=0.002$



Multiple linear regression

Regression	Survey 1 (n=119)	Survey 2 (n=52)
Dependent variable:		
Variance		$r^2=0.210$
Anova	$F(3, 115)=4.257 p=0.010$	$F(3, 48)=4.257 p=0.010$
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Recognition only	std beta=-0.038 p=0.65	std beta=-0.038 p=0.979
Mixed recogn./recall	std beta=0.248 p=0.004	std beta=0.248 p=0.004
Recall only	std beta=0.372 p=0.000	std beta=0.484 p=0.000

Recognition task (=Match) makes no contribution to vocabulary scores



Multiple linear regression

Linear regression	Survey 1 (n=119)	Survey 2 (n=52)
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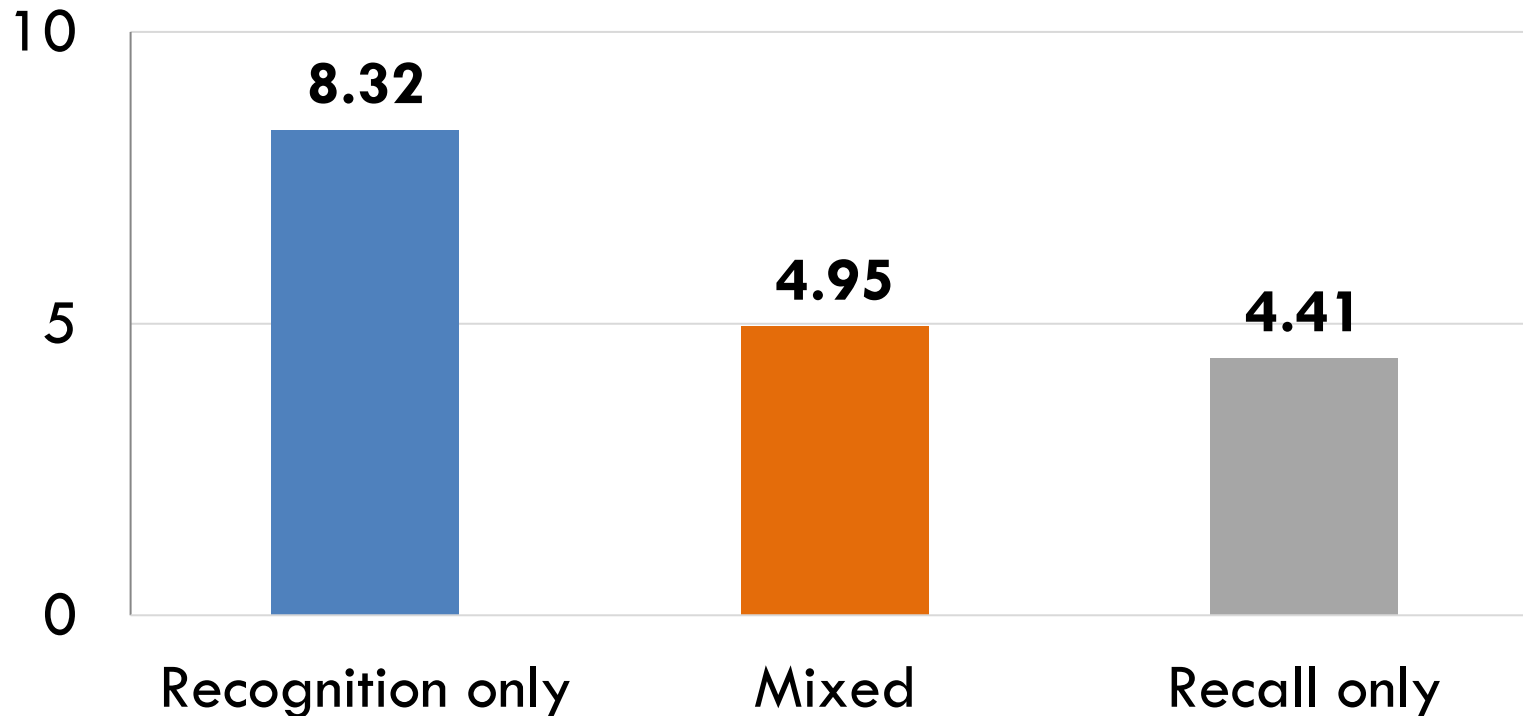
Multiple linear regression

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Mixed recogn./recall	std beta=0.248 p=0.004	std beta=0.248 p=0.004
Recall only	std beta=0.372 p=0.000	std beta=0.484 p=0.000

Recall tasks make bigger contribution to vocabulary scores than mixed tasks



Recognition vs. recall: frequency of use (Survey 1)



"Memory research shows that **recall may enhance the retention** of L1 vocabulary [...] **more than recognition.**" (Nakata & Webb 2016, 7)

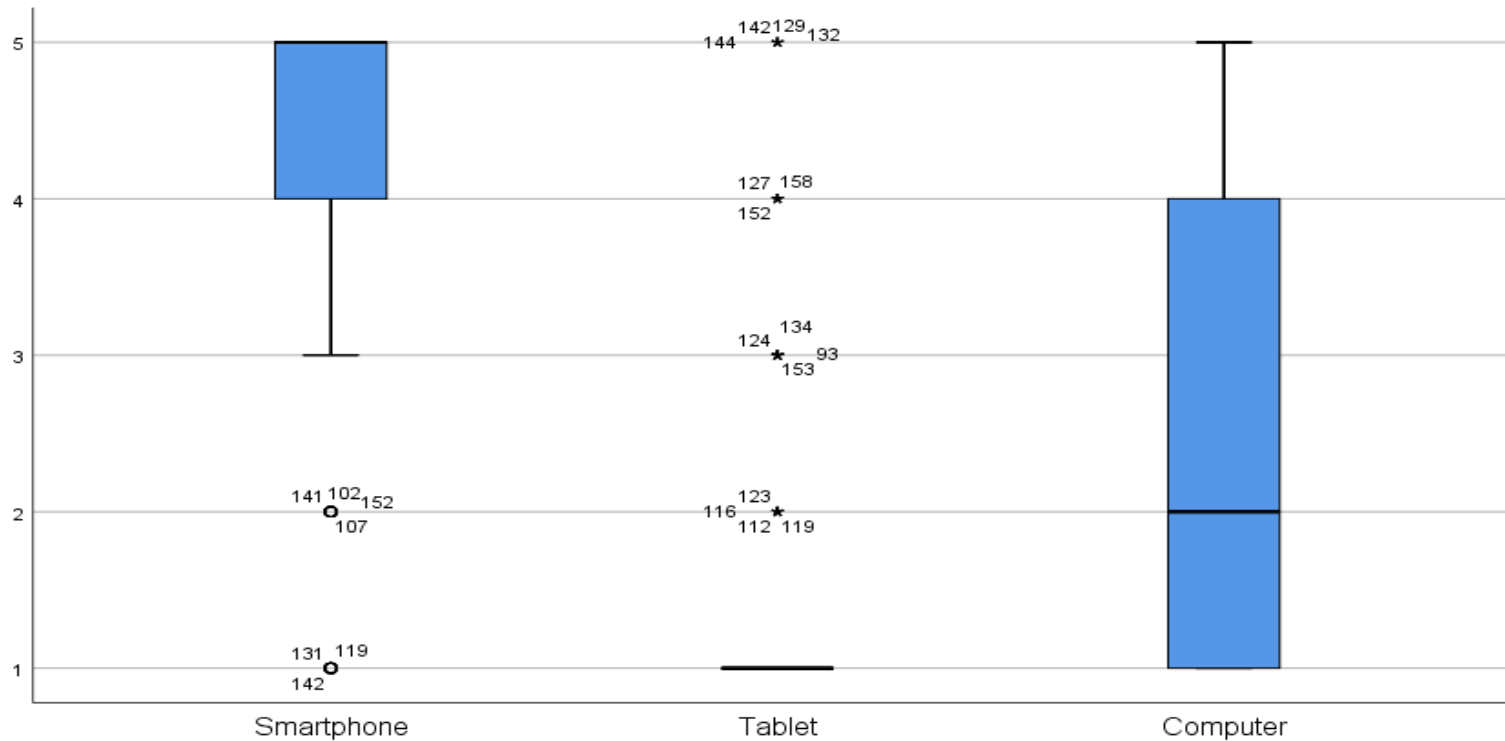


Chapter 2

How does the context of use impact on activity choice?

- Mobile phone vs PC
- "On the hoof" vs stationary environment

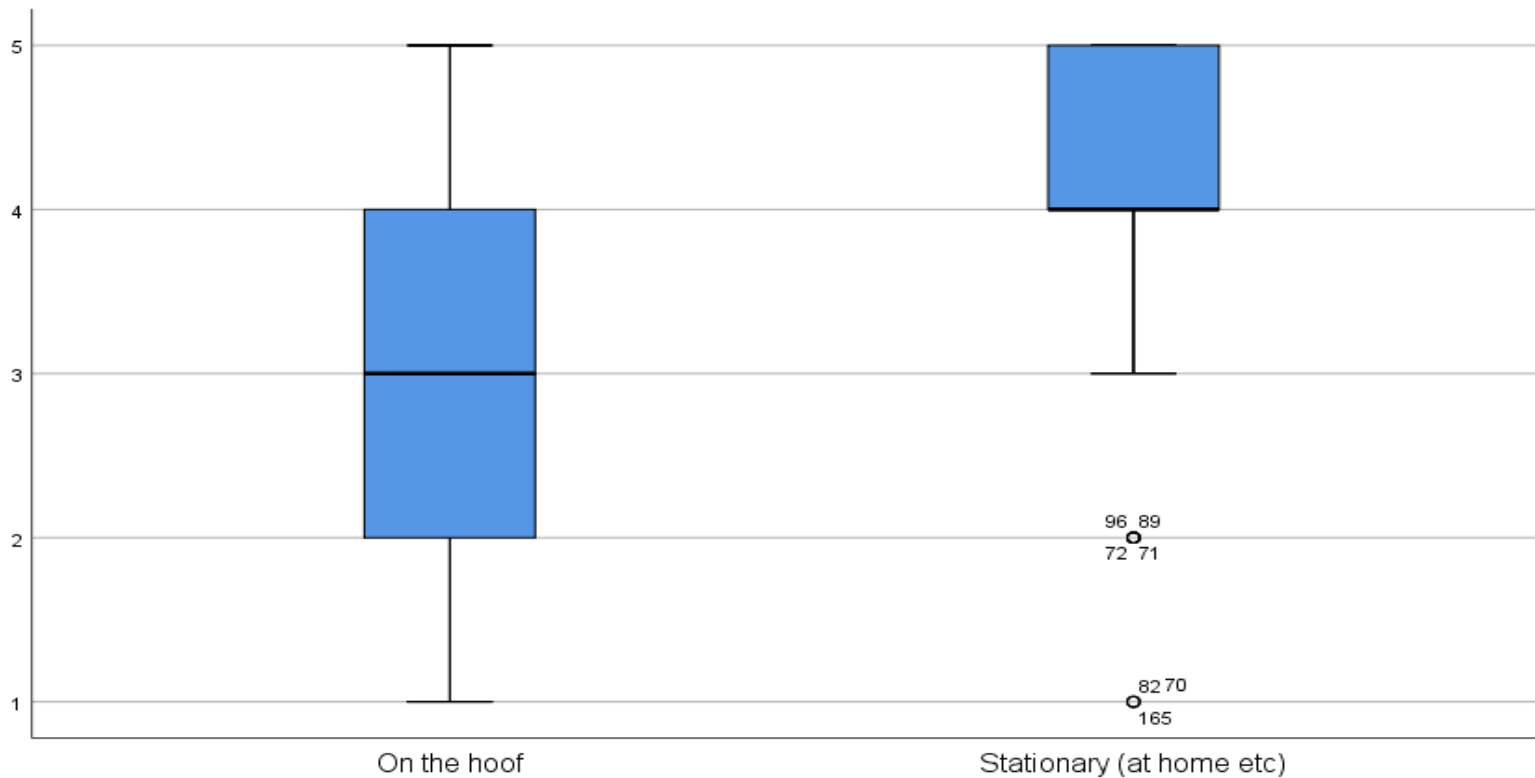
Devices used (Survey 1; n=100)



Wilcoxon Signed Ranks Test

- Computer use (median = 2) vs. smartphone use (median = 5)
- $Z = -5.403$, $p = 0.000$

Environment of use (Survey 1; n=100)



Wilcoxon Signed Ranks Test

- Use of Quizlet 'on the hoof' vs. stationary environment
- $Z = -5.064$, $p = 0.000$



Recommendations for students

Problem re smartphone use

- typing problematic
- only two tasks do not involve typing: "Match" & "Flashcard"

Aim

- Discourage recognition task = "Match" activity
- Encourage recall/mixed tasks
 - With PC/notebook → constructed response tasks (typing)
 - Mobile phone → "Flashcard" activity (no typing)



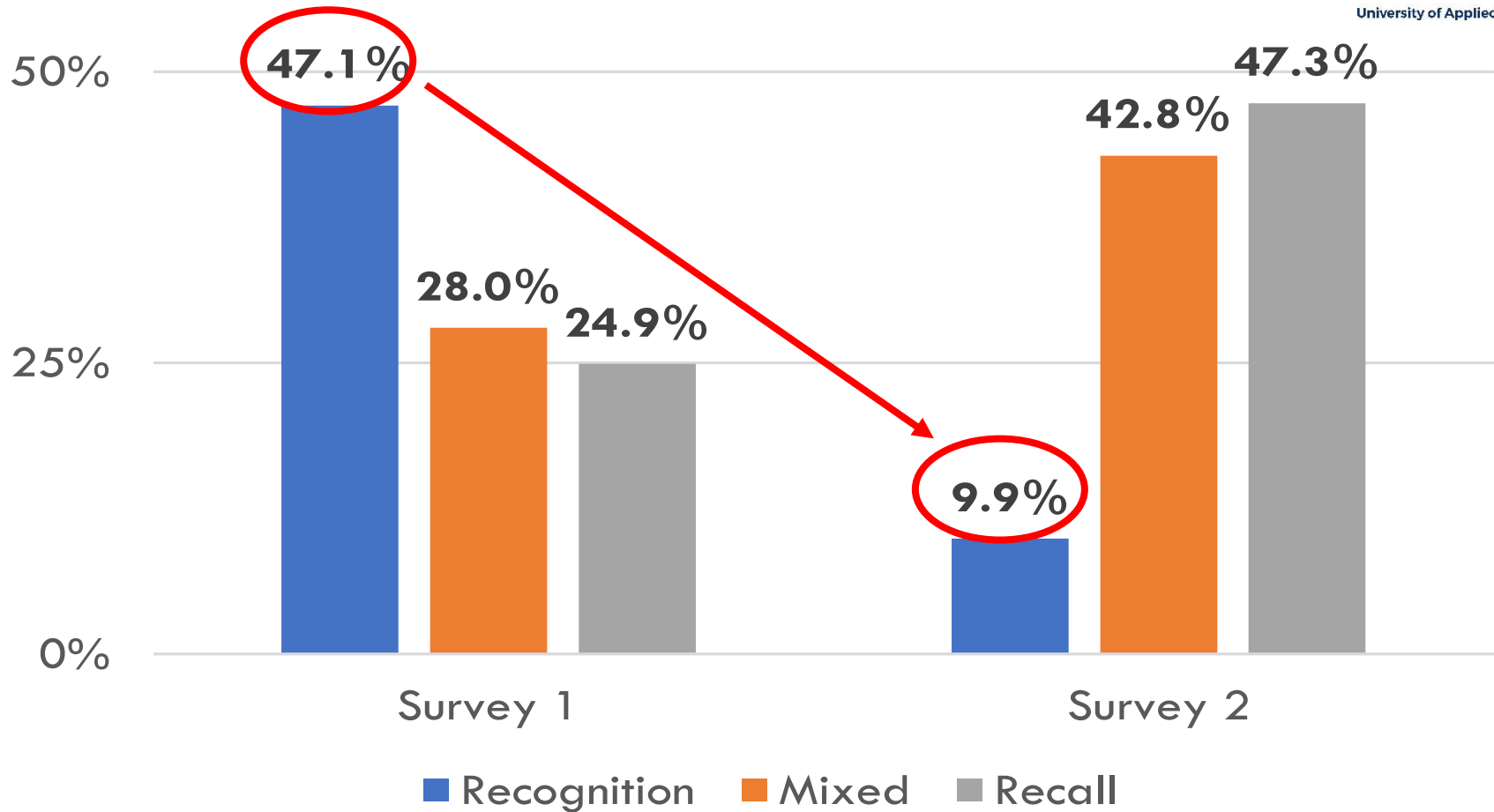
Recommendations for our students

Our wording

- Avoid the "Match"-task: it is unlikely to be effective for vocabulary learning and you may just be wasting your time with it.
- Ideally, use a PC/notebook (rather than your mobile) and try the following tasks: "Write, Learn, Test".
- If you want to learn "on the go", try the mobile app, but in this case stick to the "Flashcard" task.



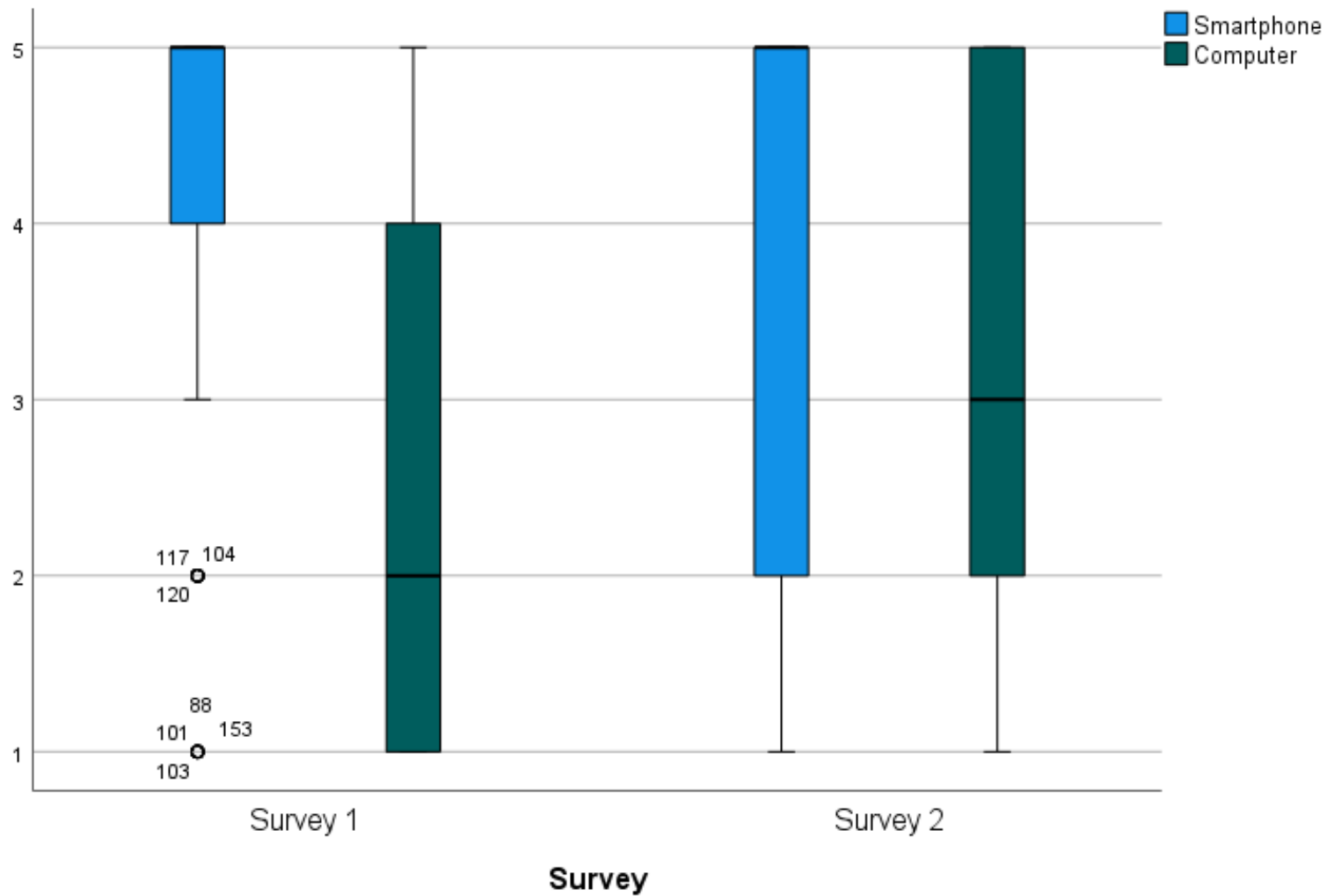
Quizlet use by task type



$$\chi^2 = 901.327; df = 5; p = 0.000$$



Devices used (Both surveys: n=100, n=29)





Chapter 3

How does learner competence impact activity choice?

"poor learners tended to use [...] the easiest [learning] strategy" (Yang & Wu 2015, 319)



Competence level & activity type (Survey 1)

CEF levels	Recognition ^a (=Match)	Recall & mixed ^b
A1/A2 (n=12)	8.00	1.50
B1 (n=44)	0.00	1.00
B2 (n=77)	0.00	1.00
C1/C2 (n=32)	0.00	12.00

a) Kruskal-Wallis $H(3, 165) = 8.548, p = 0.036$

b) Kruskal-Wallis $H(3, 165) = 7.311, p = 0.063$, approaching significance

"Facts are stubborn things, but statistics are pliable." Mark Twain



Competence level & activity type (Survey 1)

CEF levels	Recognition ^a (=Match)	Recall & mixed ^b
A1/A2 (n=12)	8.00	1.50
B1 (n=44)	0.00	1.00
B2 (n=77)	0.00	1.00
C1/C2 (n=32)	0.00	12.00

- Weakest learners (A1/A2) make poorest choices (=Match)?
- Strongest learners (C1/C2) make smartest choices?

"Facts are stubborn things, but statistics are pliable." Mark Twain



Conclusions

1. No contribution to vocabulary acquisition: Match activity
2. Positive contribution to vocabulary acquisition:
 - Recall-only tasks (Write, Flashcard; Spell, Gravity)
 - Mixed recall/recognition activities (Test, Learn)
3. The following instructions lead to more productive learning choices:
 - Avoid Match activity
 - If possible, use PC/notebook and focus on Write, Test, Learn
 - With smartphone, use Flashcard activity
4. Learner characteristics
 - Weakest learners may prefer unproductive Match activity
 - Strongest learners may prefer more productive activities
 - Communicating instructions under point 3 should balance out these preferences



References

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- Yang, F.-C., & Wu, W.-C. (2015). Using Mixed-Modality Learning Strategies via E-Learning for Second Language Vocabulary Acquisition. *Technology & Society*, 18(3), 309-322.