Usability and Learnability of VLASTWA

A **V**ocabulary **L**earning **a**nd **S**trategy **T**eaching **W**eb **A**pp

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The Literature

- One of the most crucial components of foreign language learning (FL) is **vocabulary learning** [1, 2]. However, vocabulary learning could be challenging [3].

- New technologies employed in FL education has led to emergence of **Computer Assisted Language Learning (CALL)** field [4].

- One of the most useful strategies for vocabulary acquisition is the mnemonic **Keyword Method (KWM)** [5-14].

- Exhaustive rigorous literature search for reports of an app designed to teach the KWM as a strategy and to use it in KWM vocabulary learning has not yielded any findings.

The Experiment

- Longitudinal between/within study design (n=160, age: 18-60).
- PHP web app developed and designed with KWM embedded for App groups.
- Treatment was **KWM** versus **Control** in **App** and **Pen & Paper (P&P)** methods.
- The study aimed to
    1. evaluate efficacy/usability of using computer devices to learn a vocabulary learning strategy,
    2. use the web-based app and the strategy to learn new vocabulary items (Persian-English)
    3. test vocabulary recall.
- Bidirectional recall tested on 2 occasions (4-day interval) on 1 words set (11 forward, 11 backward).
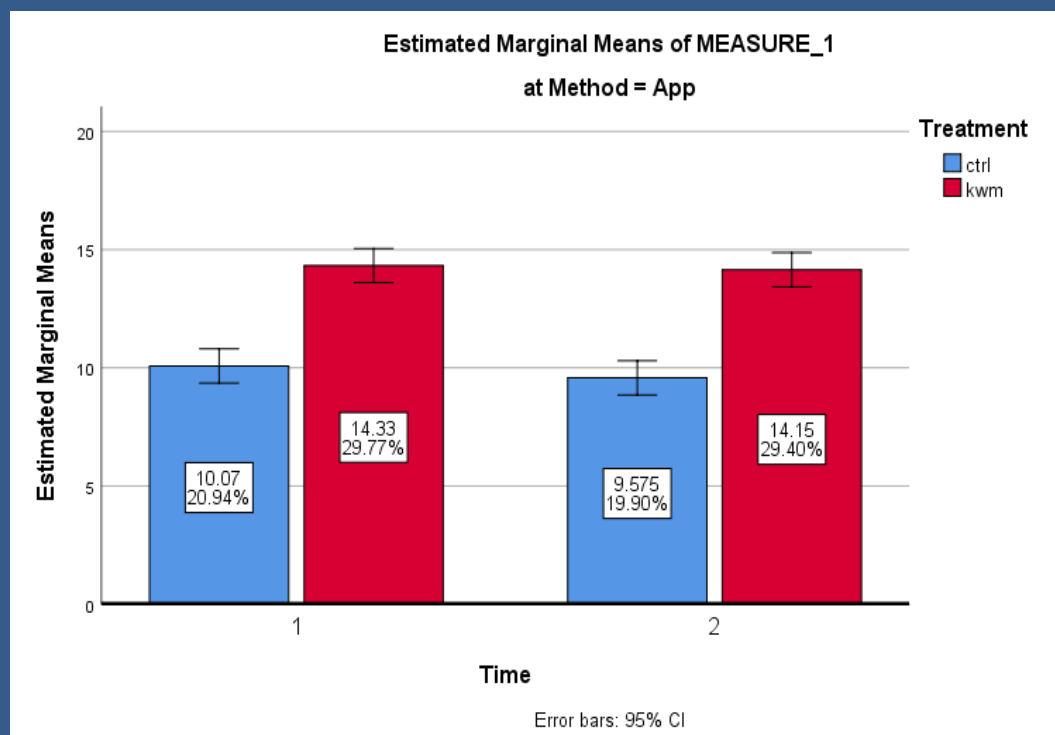

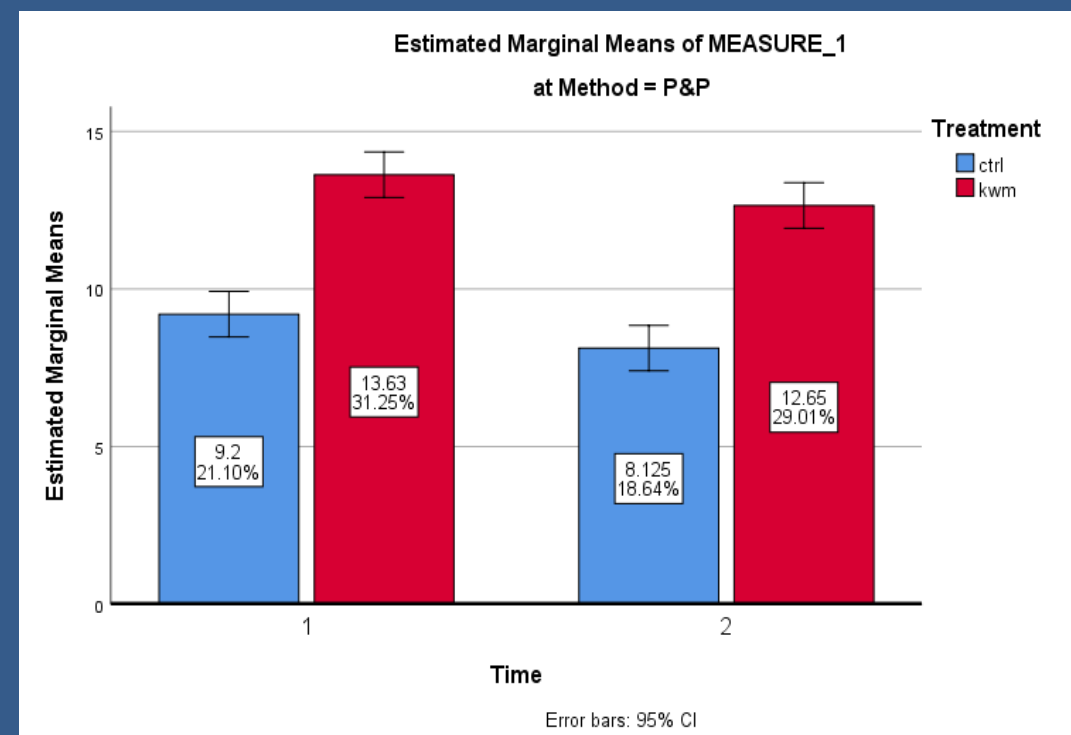Figure 1. Immediate (T1) / delayed (T2) recall by App treatment (P<.002)

Figure 2. Immediate (T1) / delayed (T2) recall by P&P treatment : P<.002

The Findings

- Mixed-design ANOVA with repeated measures (SPSS) test results indicated computer device uses in vocabulary learning via the KWM provides not just the same vocabulary learning effectiveness but also gives **a considerable advantage** in vocabulary learning (p<.002, Figures 1 and 2).
- The **KWM** can be **easily** used in the **web app setting** from a **usability and pedagogical** perspective.
- Experimental groups' participants had **better performance** recalling the new words in immediate (T1) and delayed (T2) recall than the participants from control groups (P<.002). The **'experimental KWM App'** group had the highest number of correct recalled words of the 22 new words between all groups with **14.3 (65%) in T1 and 14.1 (64%) in T2**.

The Future

- As this is the first investigation of its kind, **further development and experimental research** is needed to maximise the potential use of the web app designed for future studies:
    - **Different population** (young children to adults),
    - **Using different languages/word sets**,
    - **Applying new technologies** such as Augmented Reality (AR), Virtual Reality (VR) and serious games, and
    - **Utilising electroencephalogram (EEG)** to monitor brain/memory activity to verify results.

Scan **the QR code** for
1. App environment screenshots
2. Experimental study design
3. References

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