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Introduction

- Virtual Learning Environments (VLEs) such as Coursera and edX have become increasingly popular.
- Achieving self-regulated learning remains an ongoing challenge in current VLEs (see Fig. 1).

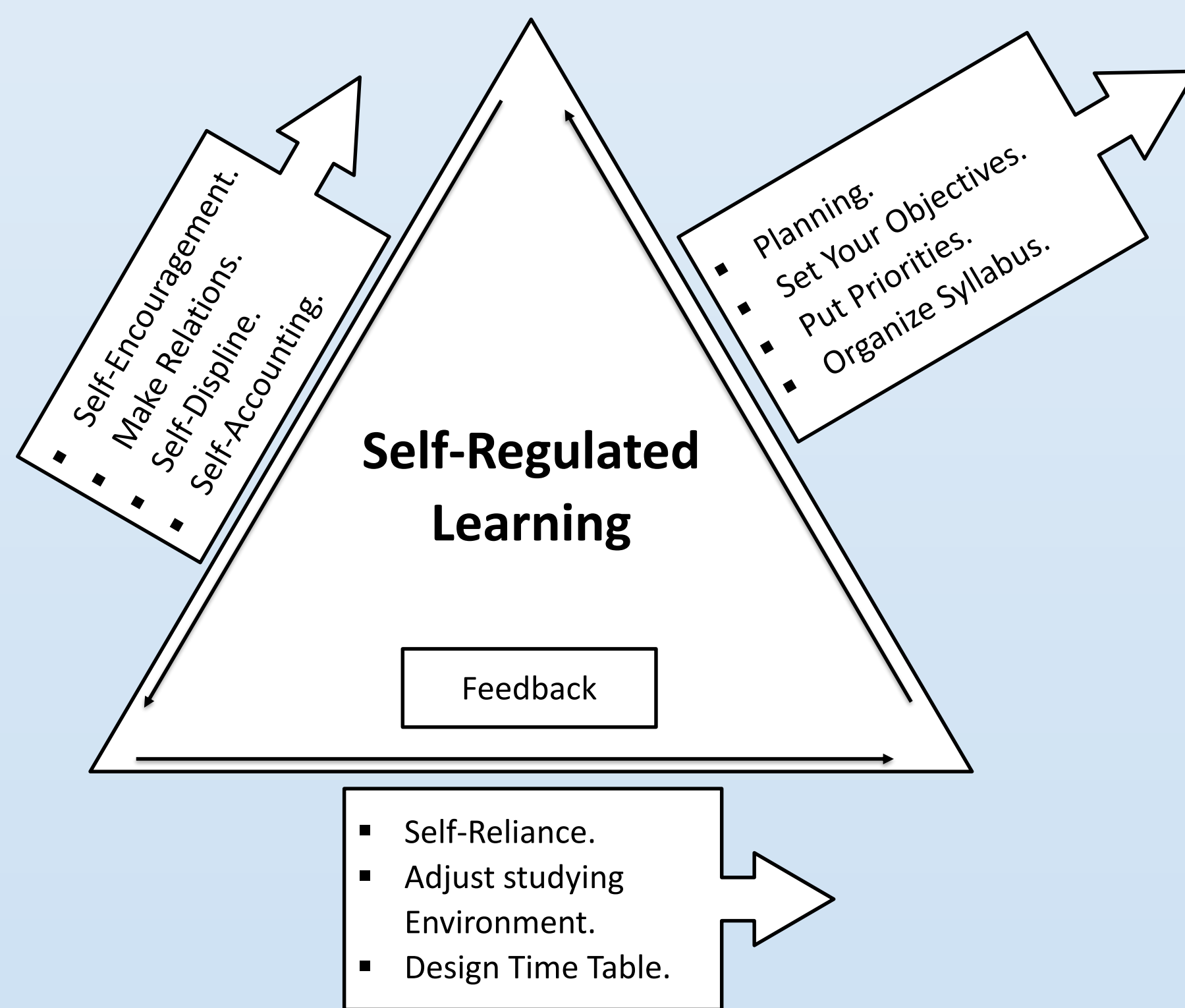


Figure 1. Self-regulated learning process.

Methods

- Explore the effectiveness of using diaries to improve self-regulation. Diaries are instruments through which students can reflect on their learning experiences.
- Based on 132 student interviews, we developed a virtual learning environment consist of (i) website, (ii) diary form, (iii) e-quiz, (iv) YouTube Channel, and (v) Facebook page (Fig. 2)
- 22 university students were recruited (5 females, $M=21.0$, $SD=0.012$).
- Each student studied 10 computer science lessons, completed 10 e-assignments and wrote 10 diary forms (Fig.3).

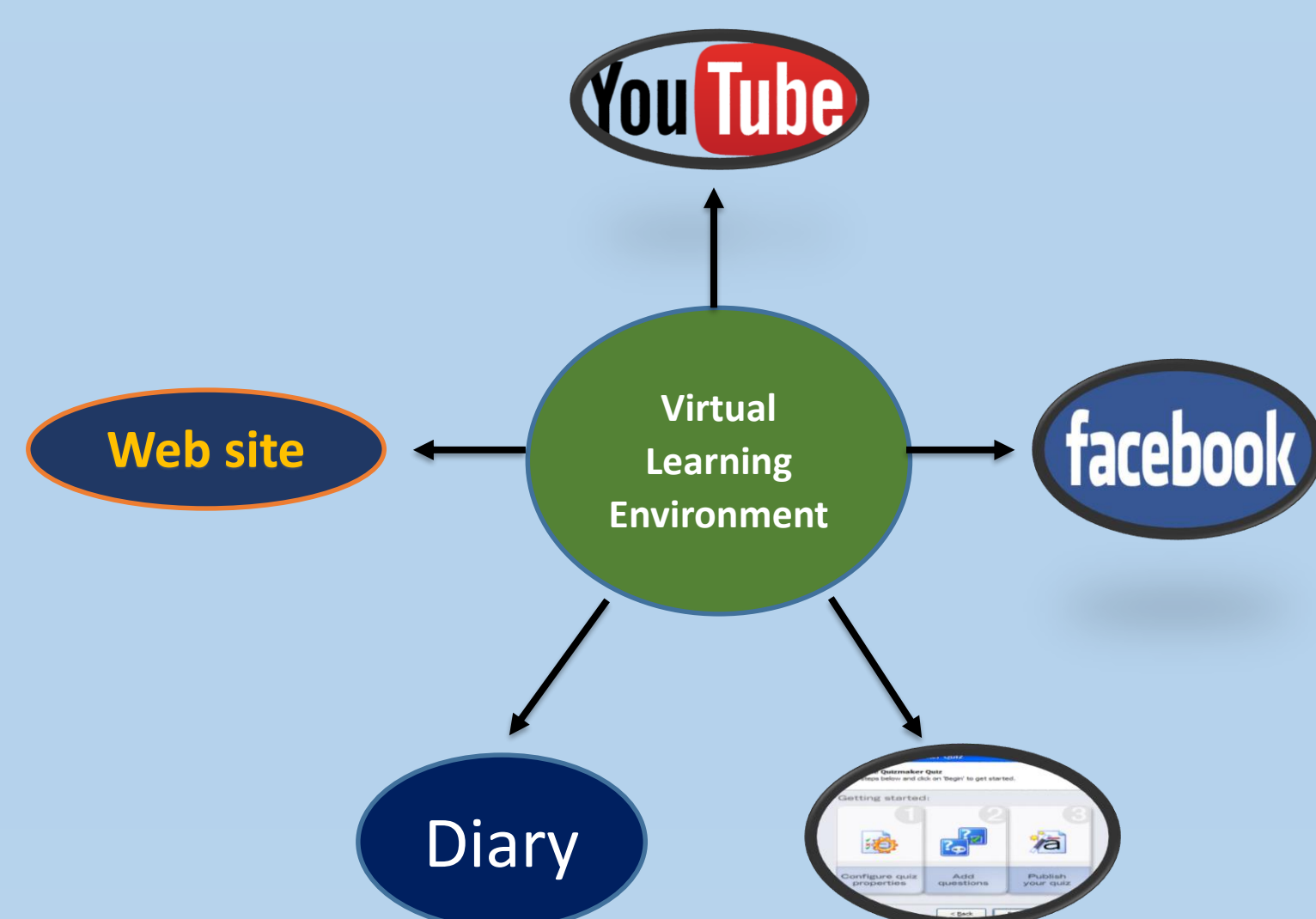


Figure 2. Components of proposed VLE.

Figure 3. Sample of diary web-page.

Analysis

- Total 220 diary entries were written by students during four weeks.
- Total of 44 questionnaires were used to assess students' self-regulation before and after using the proposed VLE (Fig.4).

Results

A significant difference was found in self-regulation ($t(22)=7.245, p=0.001$), indicating the effectiveness of diaries on self-regulation (see Table 1).

Table 1. Averages differences on self-regulated Learning in (pre-post) questionnaire.

Self-regulation process	Pre-test	Post-test	Increase (%)
Design objectives	2.71	3.81	29%
Adjust studying Environment	3.50	4	13%
Skills of adjust time management	2.99	3.90	23%
Planning	3.19	4.20	24%
Organize syllabus	3.48	4.19	17%
Establish Priorities	2.79	3.86	28%
Self-assessment and self- evolution	2.73	3.91	30%
Self – encouragement	3.92	4.55	14%
Self-reliance	3.55	4.25	16%
Enforcement the relations between instructional lessons	3.33	4.40	24%
Total	3.23	4.09	21%

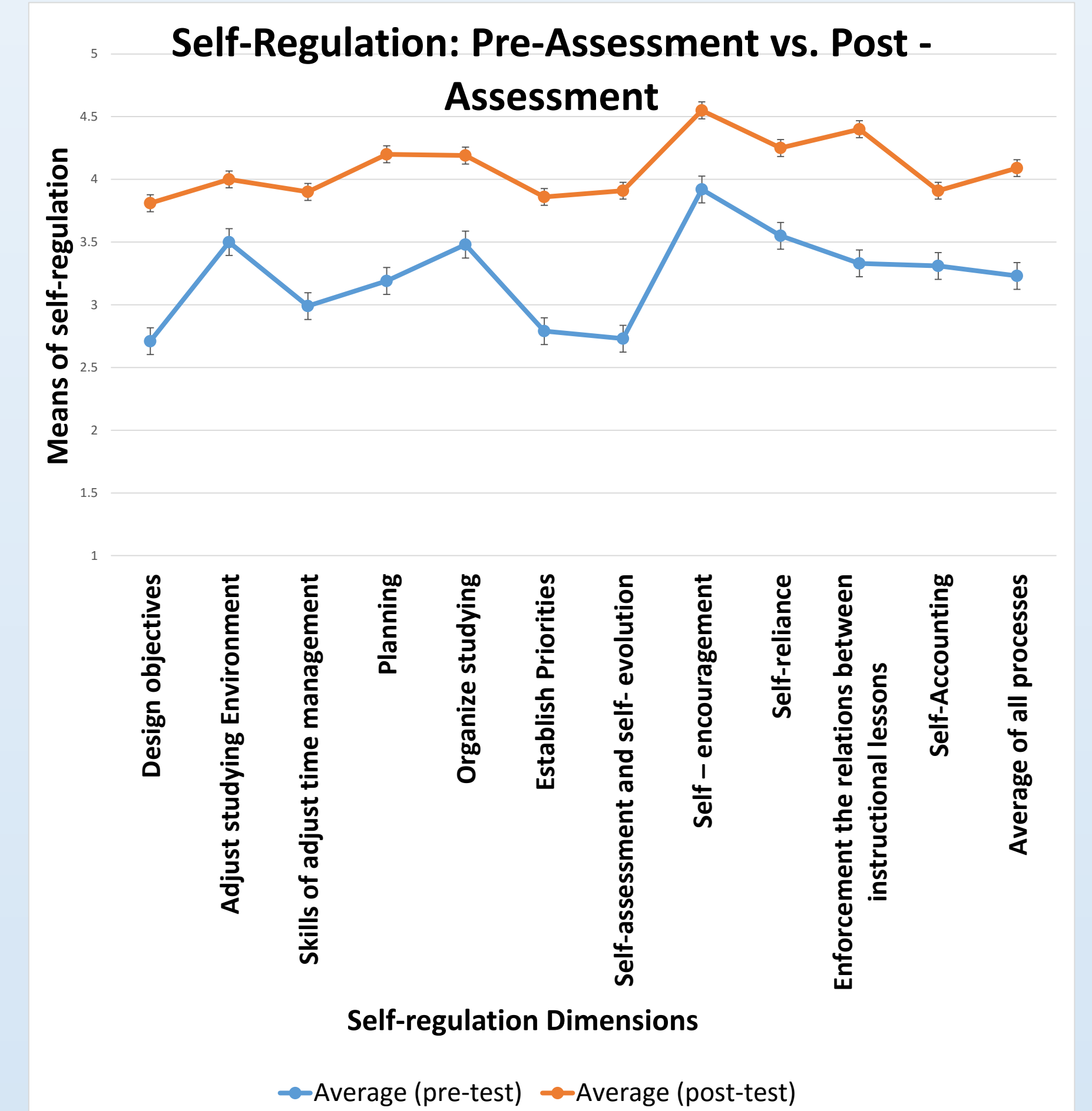


Figure 4. Self-Regulation: Pre-assessment vs. Post-assessment.

Discussion

- Most participants have significantly increased self-regulated learning through writing diaries in a four-week period.
 - 90.91% of the students writing diaries made them study the lessons on time.
 - Discussion of their diaries encouraged 63.64% of students to continue studying.
- Confirms that diaries has positive effects on students' self-regulated learning.

Conclusions

- Writing diaries had a significant positive effect on improving students' ability.
- Our future work will include exploring the effectiveness of using new phone app for writing diary in developing learner's abilities in self-regulated learning. Side by side, evaluating student's ability by new ways and also searching for avenues to develop VLE.

References

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