

Digital Capture of Active and Collaborative Learning: A feasibility study

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BACKGROUND

Administration processes associated with Team-Based Learning (TBL) are labour intensive. InteDashboard software has been developed to mitigate such burdens. Research of the feasibility of its usage has not been published.

AIM

To test the feasibility of scaling up digital capture of in-class active collaborative learning and assessments. Specifically, we tested InteDashboard via iPads to digitally prepare, capture and collate results of all TBL activities.

METHODS

Prospective mixed methods design

Deakin University, Australia

Ethics approval to survey and observe nursing and optometry students (n=167) and teachers (n=8)

Survey (Self-Report of Engagement) and observation (STROBE) measured student engagement in classes pre and post digital TBL (D-TBL)

Surveys and extended response questionnaires elicited:

- student experiences and perceptions of paper and D-TBL
- teacher experiences of preparing and finalising assessments digitally

Data analyses: Surveys: descriptive analysis and paired t-tests; Text responses: content analysis.

CONCLUSIONS

High satisfaction and student engagement with InteDashboard on iPads suggest learning via D-TBL is feasible, enjoyable and maintains the integrity and fidelity of TBL. Further up-scaling may be limited by institutional resources as D-TBL requires a committed and wide ranging team of academics and professional staff for implementation and ongoing delivery.



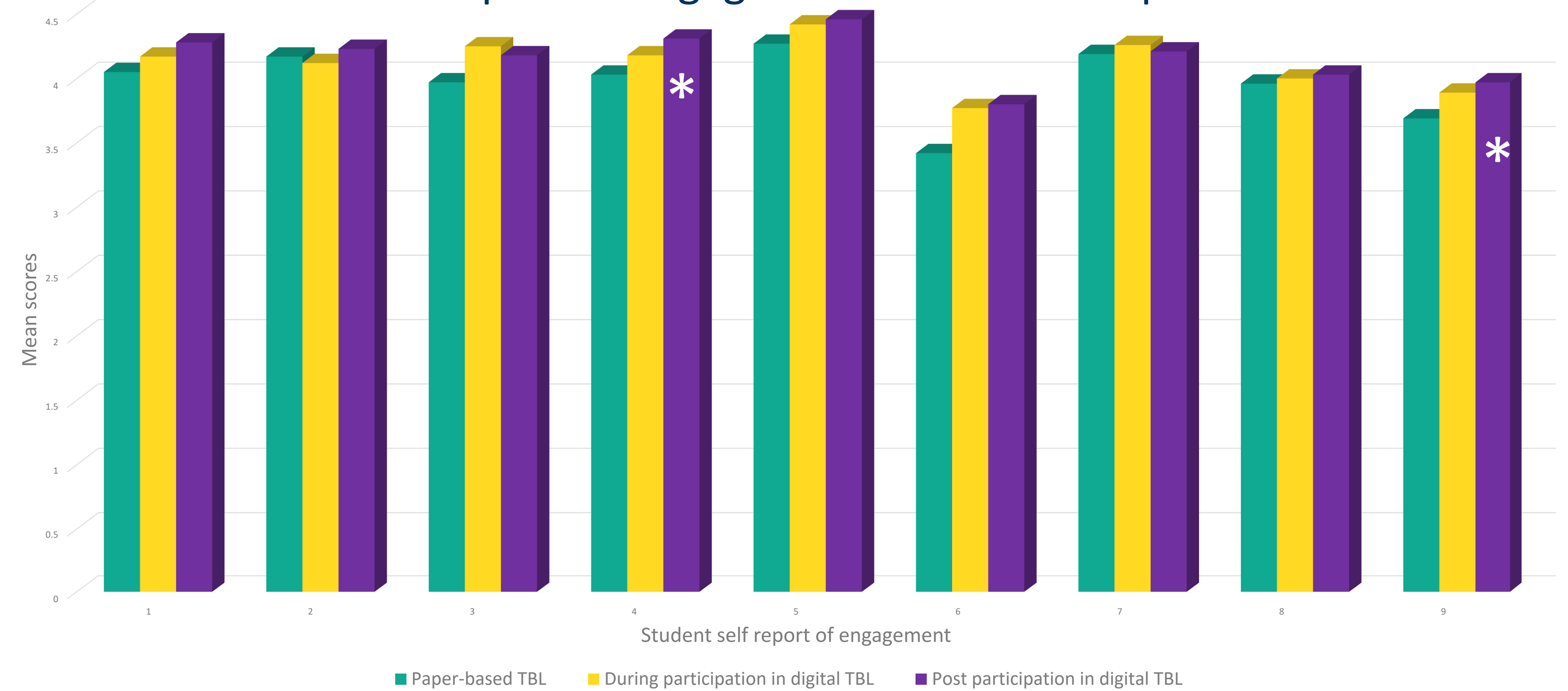
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RESULTS

Students (n=162) and Teachers (n=8) participated; a 97% response rate. D-TBL provided immediate feedback to learners, and teachers to improve facilitation of key concepts. Teachers preferred D-TBL processes for the time saved. Overall mean Student Self-Report of Engagement scores for paper-based TBL (\bar{x} =3.97, SD= .26) and D-TBL (\bar{x} =4.16, SD=.19) reflect high student engagement (n=162).

Table 1. Student Self-Report of Engagement Scores for Paper-based and D-TBL



Note: *p<0.05; Item 4: I participated in class discussions today; Item 9: Most students were actively involved in class today

Table 2: Student and Facilitator Perceptions of the 'Fun Factor' during TBL

	Facilitator cohort (n = 8)		Student cohort (n = 61)	
	\bar{x}	SD	\bar{x}	SD
Team-Based Learning method				
Paper-based responses (IRAT, TRAT or application)	7.25	.886	5.39	2.660
Scratchies (TRAT TBL)	8.13	1.246	6.44	2.808
Digital / iPad and InteDashboard (IRAT, TRAT or application)	6.50	2.138	5.69	2.520

Note. 1 = low perceived level of fun; 10 = high perceived level of fun

Table 3: Student and Facilitator Preferred Methods of Learning and Teaching Respectively via TBL:

	Facilitator cohort (n = 8)		Student cohort (n = 61)	
	n	%	n	%
Team-based learning method				
Paper-based and scratchies	0	0.0	13	21.3
Digital using InteDashboard and iPads only	5	62.5	20	32.8
Digital using InteDashboard and iPads & scratchies	2	25.0	15	24.6
No strong preference	1	12.5	13	21.3