

# 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:

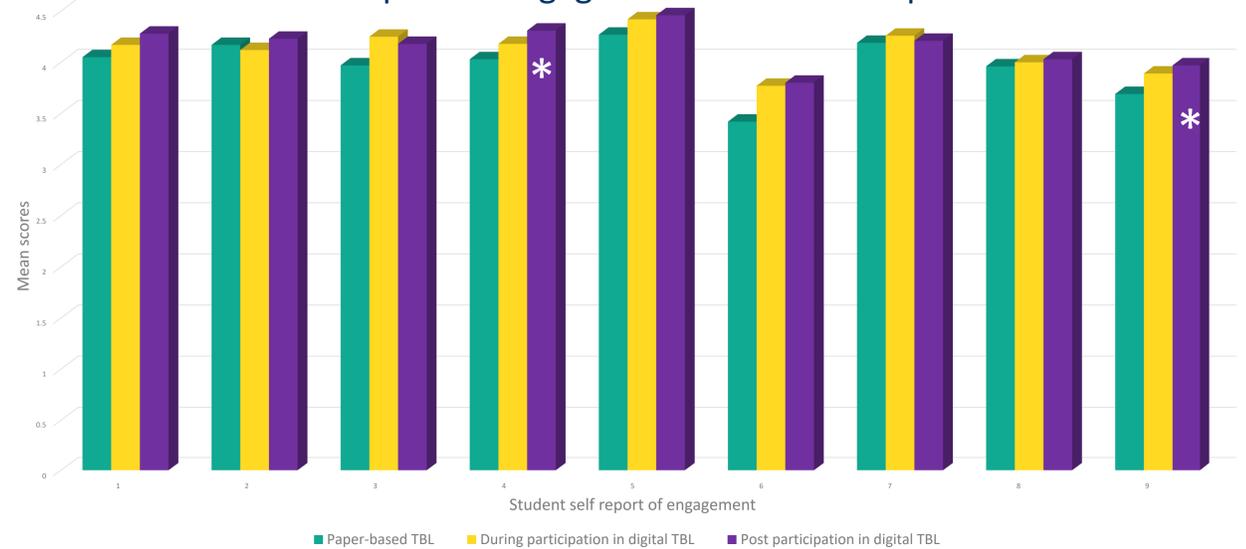
- student experiences and perceptions of paper and D-TBL
- teacher experiences of preparing and finalising assessments digitally

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

## 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
<b>Team-Based Learning method</b>				
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	%
<b>Team-based learning method</b>				
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

## 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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