

Is using problem based learning the solution to the 'graveyard slot' ?



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The problem

	0900 - 1050	1100 - 1250	1300 - 1350	1400 - 1550	1600 - 1750
MON	157SPO Exercise Physiology (MP, SD) labs and tut 219PH Injury Prevention and Management II (9-12:00) 358SPO Exercise Health (EW, VC)	132SPO Functional Anatomy and Movement (SO, PS) 275SPO Coaching and Sport Performance (KC, AD) 359SPO Applied Exercise Physiology (MP, DT)		104SPO Research Skills (RJ, EW, SD) 204SPO Research Skills in Sport and Exercise Science 2 (DT, VC) 375SPO Applied Coaching Science (AD, SO)	Add+ Vantage slot 342SPO Sport & Exercise Psychology III (KC, MS)
TUE	142SPO Theoret. Intro. to Sport and Exercise Science (KC, MS) 219PH Injury Prevention and Management II (10-11:00) 332SPO Biomechanical Applications (RJ, SO)	175SPO Principles of Training & Exerc. Prescription (AD, SO, SD) 242SPO Skill Acquisition and Group Dynamics in Sport and Exerc. Sci. 315SPO Nutrition for Performance (JH)		115SPO Energy for Exercise (JH) 257SPO Physiology of Training (MP, AD, RJ) 322PH Role of the Sports Therapist in S&E (2-5:00)	157SPO Exercise Physiology (MP, SD) lec 263SPO Exercise Prescription Add+ Vantage slot
WED	Add+ Vantage slot <i>A100SPO Healthy Lifestyle Analysis</i> 192SPO Clinical Anatomy (PS) (9-12:00) 2 groups	Add+ Vantage slot 110PH Injury Prevention and Management (PS, SLW)			
THU	193SPO Health and Fitness lecture 9-10 232SPO Mechanics of the Musculoskeletal System (RJ, SO) Add+ Vantage slot	110PH Injury Prevention and Management (10-12) 215SPO Nutrition for Exercise (JH) 304 /305SPO Research Design (Most staff)		110PH Injury Prevention and Management (PS, SLW) 2-4 205SPO Research and Support in Spo. and Exerc. Sci. (AD, SO, DT) 304SPO Research Design (incl 305SPO) (JH, PS)	Add+ Vantage slot <i>A101SPO Coaching Practice</i>
FRI	Add+ Vantage slot		No teaching allowed in this slot		

Attendance and achievement

Haplern N 2007 The Impact of Attendance and Student Characteristics on Academic Achievement: Findings from an Undergraduate Business Management Module

“a significant positive correlation between attendance and academic achievement”

Newman-Ford L et al (2008) A Large-Scale Investigation into the Relationship between Attendance and Attainment: A Study Using an Innovative, Electronic Attendance Monitoring System.

“The more a student attends classes, the less chance they have of failing academic assessments, and the more chance they have of attaining high grades”

	0900 - 1050	1100 - 1250	1300 - 1350	1400 - 1550	1600 - 1750
MON	358SPO EXERCISE AND HEALTH				
TUE					
WED					
THU					
FRI			No teaching allowed in this slot	302BIO CLINICAL PHYSIOLOGY	

Attendance 2007-8

- Exercise and health = 75% .. to 40%
- Clinical Physiology = 80% ... to 60%

Achievement 2007-8

	Exercise and health	Pathophysiology of injuries	Applied exercise physiology
	MON 9-11:00	TUE 14-16:00	Mon 11-13:00
Mean mark	47%	47%	49%
Pass rate	60%-67%	84-86%	78-81%

Making attendance compulsory

- Marks for attendance
 - Academic credibility
- Marks for tutorial tasks
 - Already in place
 - limited success

Possible solution ?

Major and Palmer, 2001, Walker et al. 2008

Problem based learning (PBL) has been shown to improve attendance in science based courses

This is not always one of the benefits that is stressed in the literature.

TASK	% OF COURSEWORK MARK
INDIVIDUAL WRITTEN ASSIGNMENT BASED ON ACUTE INJURY PROBLEM	50%
GROUP MARK FOR HANDOUT AND DEFENCE OF TABLE	20%
GROUP MARK FOR COACH LEAFLET, DEFENCE OF THIS AND CROSS EXAMINATION OF OTHER GROUP	30%

		09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45
13-Oct	ACUTE INJURY PROBLEM SESSION A	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN	EIGHT
20-Oct	ACUTE INJURY PROBLEM SESSION B	EIGHT	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN
22-Oct	ACUTE INJURY PROBLEM SESSION C	SEVEN	EIGHT	ONE	TWO	THREE	FOUR	FIVE	SIX

PROBLEM BASED LEARNING

Date

Group number and task

Summary of discussion

Carbonised sheet
My copy annotated
where students did
not attend/ hadn't
done their tasks

name	Individual goals/ tasks

GROUP MARK DISTRIBUTION

EITHER

TICK HERE TO SHOW MARKS ARE TO BE EVENLY DISTRIBUTED BETWEEN ALL GROUP MEMBERS

OR

INDICATE BELOW HOW MARKS ARE TO BE DISTRIBUTED AND GIVE RATIONALE FOR THIS (TOTAL % MUST ADD UP TO 100%)

Only one group did not distribute marks evenly

NAME- PRINT CLEARLY	SIGNATURE	% MARKS DISTRIBUTION

REASON FOR DISTRIBUTION OF MARKS

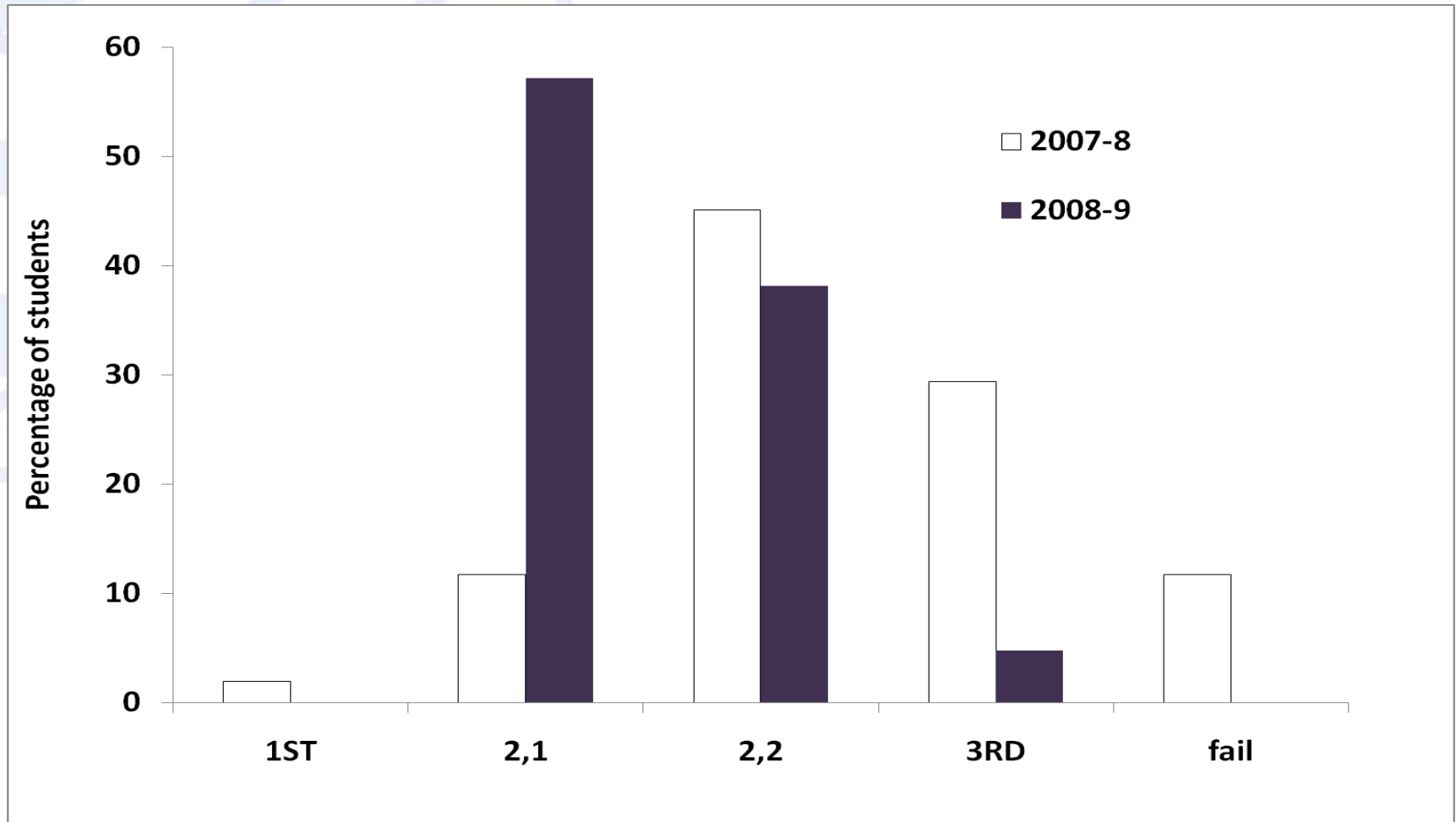
- Attendance 2007-8 = 75% .. to 40%
- Attendance 2008-9
 - PBL >90%
 - Lectures 60%

Achievement

	2007-8	2008-9
mean coursework mark	50	58
st dev	11	9
% late submissions of individual coursework	25	9

Significantly higher coursework marks $P < 0.001$

Distribution of coursework marks



Student Survey Questionnaire

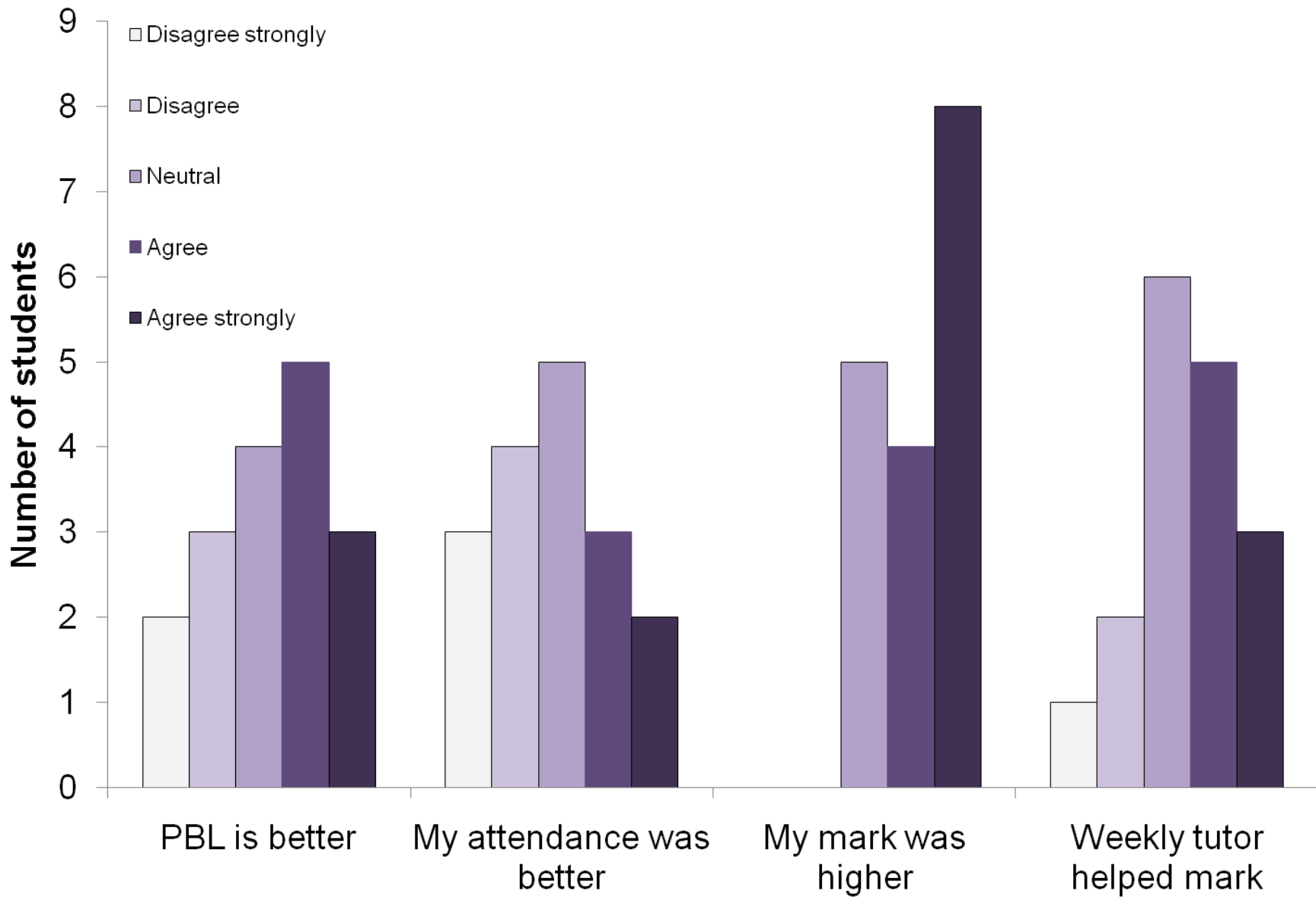
- Satisfaction - (1= very dissatisfied – 5 = very satisfied)
- Importance – (1= not at all important – 5 = very important)

40 questions

- Teaching and Learning (*Teaching, Problem Delivery, Learning, Practical Sessions*)
- Organisation and Assessment (*Communication, Course Organisation, Workload and Assessment*)
- CU Online
- PBLdeveloped your.....
- Yes/no –

Feedback

- Additional specific agree/ disagree statements about whether PBL improved achievement, skills and **behavior** e.g.
 - Attendance
 - Coursework marks
 - Dealing with unfamiliar topics
- Note - only 17 responses (65% of students)



Conclusions

30-40% improvement in attendance

8% Higher coursework marks

More students handing in on time

10% increase in pass rate

References

- Haplern N (2007) The Impact of Attendance and Student Characteristics on Academic Achievement: Findings from an Undergraduate Business Management Module Journal of Further and Higher Education, v31 n4 p335-349
- Major C.H. and Palmer B (2001) Assessing the Effectiveness of Problem-Based Learning in Higher Education: Lessons from the Literature. Academic Exchange Quarterly 5, CBE Life Sci Educ 7(4): 361-367 2008
- Newman-Ford L et al (2008) A Large-Scale Investigation into the Relationship between Attendance and Attainment: A Study Using an Innovative, Electronic Attendance Monitoring System. Studies in Higher Education, v33 n6 p699-717
- Walker J.D., Sehoja H. Cotner P.M. and Decker M.D. (2008) A Delicate Balance: Integrating Active Learning into a Large Lecture Course. Life Sci Educ 7(4): 361-367

**THANK YOU FOR LISTENING
AND
ANY QUESTIONS PLEASE?**