# Piloting Team-based learning: There is an ‘I’ in team.

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# Overview

- Aims
  - Student perception of TBL and impact on learning
  - Barriers to effective implementation
- How did it work?
  - TBL *versus* traditional lecture
- Barriers and future developments…

# What is team-based learning?

- Active learning to promote **self-directed learning**
- Increased test **performance** (Koles *et al*., 2010)
- **Attendance** and **engagement** (Shankar and Roopa, 2009)
- Student **attitudes** to group work (Clark *et al*., 2008)
- '**team synergy**' (Watson, Michaelsen and Sharp, 1991)
- Student **satisfaction** with the learning experience (Beatty *et al*., 2009)
- Student perceptions of TBL were more **positive** than for traditional lecture-based learning (Frame *et al*., 2015)

# What do you currently know about team-based learning?

# What is team-based learning?

- Question 1: Put the following in the correct sequence for team-based learning
  a) Team Readiness Assurance Test, written appeals, clarifying lecture, application activities, Individual Readiness Assurance Test
  b) Individual Readiness Assurance Test, Team Readiness Assurance Test, written appeals, clarifying lecture, application activities
  c) clarifying lecture, Team Readiness Assurance Test, Individual Readiness Assurance Test, written appeals, application activities,

# What is team-based learning?

- Question 2: The recommended number of individuals per team is;
  a) 3-5 individuals
  b) 5-7 individuals
  c) 6-8 individuals

# Piloting Team-based learning:
# There is an ‘I’ in team.

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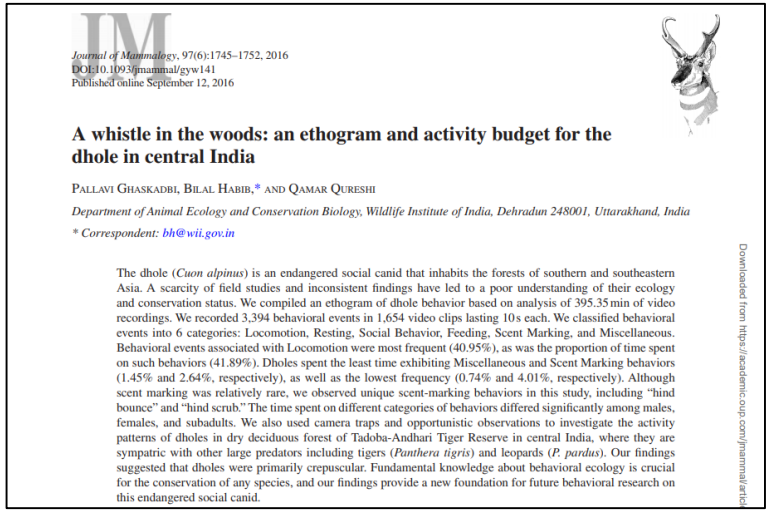
# Piloting TBL at ARES

- Active learning sessions
- More time critically thinking than course content
- Aims:
  - Student perception of TBL and impact on learning
  - Barriers to effective implementation



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**A whistle in the woods: an ethogram and activity budget for the dhole in central India**

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The dhole (*Cuon alpinus*) is an endangered social canid that inhabits the forests of southern and southeastern Asia. A scarcity of field studies and inconsistent findings have led to a poor understanding of their ecology and conservation status. We compiled an ethogram of dhole behavior based on analysis of 395.35 min of video recordings. We recorded 3,394 behavioral events in 1,654 video clips lasting 10 s each. We classified behavioral events into 6 categories: Locomotion, Resting, Social Behavior, Feeding, Scent Marking, and Miscellaneous. Behavioral events associated with Locomotion were most frequent (40.95%), as was the proportion of time spent on such behaviors (41.89%). Dholes spent the least time exhibiting Miscellaneous and Scent Marking behaviors (1.45% and 2.64%, respectively), as well as the lowest frequency (0.74% and 4.01%, respectively). Although scent marking was relatively rare, we observed unique scent-marking behaviors in this study, including "hind bounce" and "hind scrub." The time spent on different categories of behaviors differed significantly among males, females, and subadults. We also used camera traps and opportunistic observations to investigate the activity patterns of dholes in dry deciduous forest of Tadoba-Andhari Tiger Reserve in central India, where they are sympatric with other large predators including tigers (*Panthera tigris*) and leopards (*P. pardus*). Our findings suggested that dholes were primarily crepuscular. Fundamental knowledge about behavioral ecology is crucial for the conservation of any species, and our findings provide a new foundation for future behavioral research on this endangered social canid.

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# Overview

- Flipped learning
- Develop interpersonal **relationships**
- Supports **SfA** agenda
- Develops **life-long** learning by promoting **self-direction**
- Greater **feedback** opportunities from peers, lecturer and Readiness Assurance Tests (RATS)
- Potential to increase individual **confidence**, fostering individual and group **accountability**

Individual study

Strategically formed, permanent teams

Individual Readiness Assurance Test (IRAT)

Readiness assurance

Team Readiness Assurance Test (TRAT)

Promote critical thinking & team development

Application activities


Peer evaluation

Individual study

Self-guided materials provided 7 days prior

Individual Readiness Assurance Test (IRAT)

48 hours prior – 3 MCQs and 5 short answer questions 100% completion

Team Readiness Assurance Test (TRAT)

In class – 3 MCQs and 5 short answer questions

Application activities

Clarification – application to *ex situ* mngt.

Follow up 83% completion

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# Pilot: sociality of a medium sized carnivore

- Key animal behaviour concepts and methodologies
- Development of data presentation and interpretation skills
- Application of knowledge *ex situ*
- Level 4 BSc (Hons) Zoo Biology
- Group A (n=24) TBL approach
  - Groups of 3 individuals
  - One self-identify as competent in Excel
- Group B (n=22) traditional approach

# Pilot: sociality of a medium sized carnivore

- Significant problem – **application** to a welfare issue *ex situ*
- Specific choice – how to present data effectively
- Same problem – all working on the same problem
- Simultaneously report – present Figures to the class

- Peer evaluation - Students feel accountable to an outside authority, other group members

# Findings

- Good **appetite** for flipped learning (IRAT 100% completion)
- High **engagement**
- Greater **confidence** in **skills** and **knowledge** using TBL compared to traditional lecture
- 50% strongly agree ‘answering the questions as a team aided my learning’

1. Key animal behaviour concepts and methodologies
   - Clear improvement in understanding
2. Development of data presentation and interpretation skills
   - Clear improvement in understanding and confidence

# Findings

- Greater **confidence** in knowledge and skills
- Fostered **relationships** between different student groups
- Gave a **voice** to quieter students

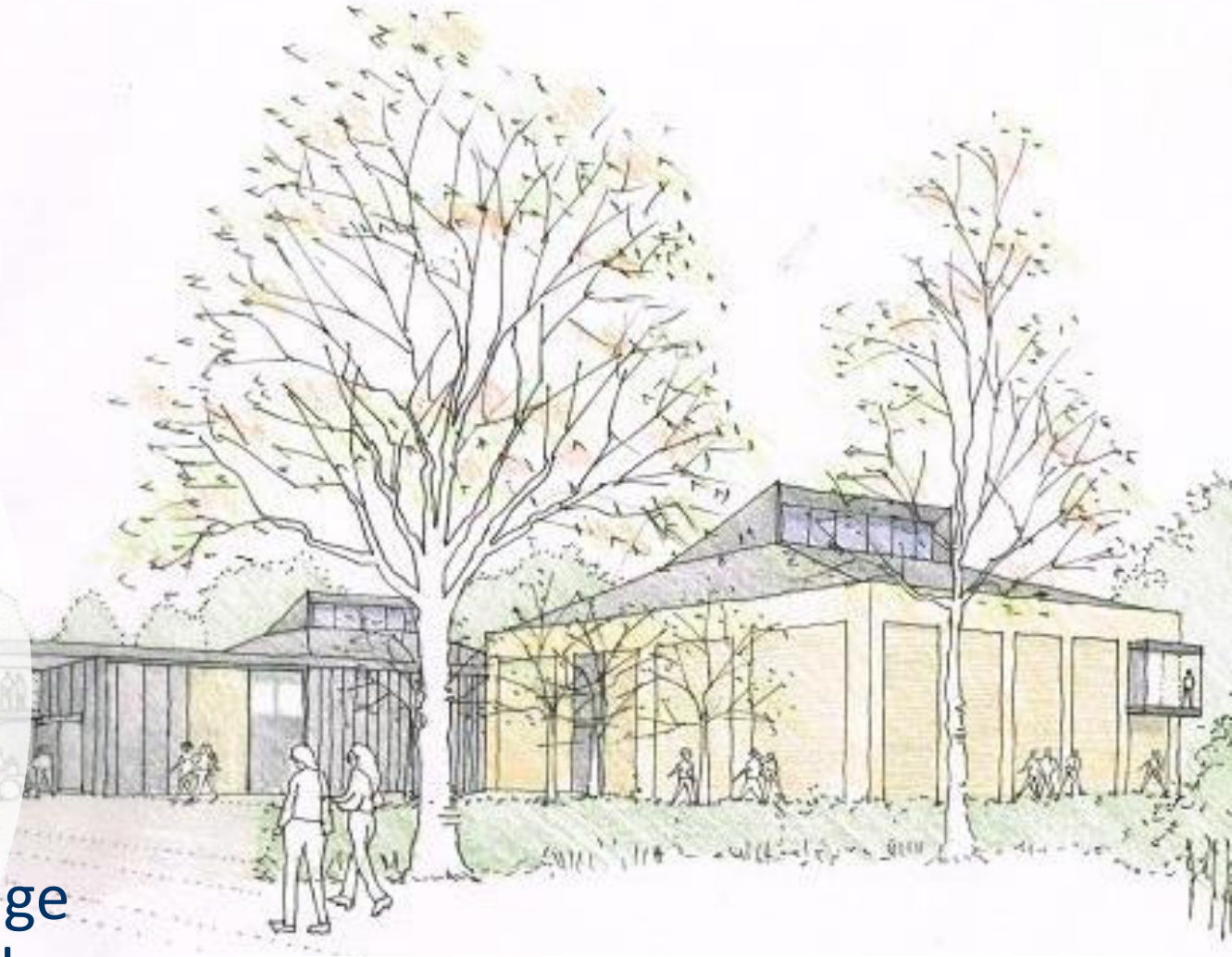
*There is an 'I' in team*

# Barriers to TBL at ARES

- Learning environment
- Groups of 3 rather than desired 5-7 individuals
- ‘one-off’ session, rather than commitment to consistent teams
- Readiness Assessment Tests have great potential to increase student confidence and enhance self-direction
- SCALE-UP rooms at ARES will increase the opportunity for the delivery of flipped learning and potentially TBL

# Summary

- Help to enhance interpersonal relationships
- TBL has potential benefits at ARES
- Promote self-direction across a range of student abilities and backgrounds
- **Appropriate teaching facilities**



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# What do you currently know about team-based learning?

# What is team-based learning?

- Question 1: Put the following in the correct sequence for team-based learning
  a) Individual Readiness Assurance Test, Team Readiness Assurance Test, written appeals, clarifying lecture, application activities
  b) clarifying lecture, Team Readiness Assurance Test, Individual Readiness Assurance Test, written appeals, application activities,
  c) Team Readiness Assurance Test, written appeals, clarifying lecture, application activities, Individual Readiness Assurance Test

# What is team-based learning?

- Question 2: The recommended number of individuals per team is;
  a) 6-8 individuals
  b) 5-7 individuals
  c) 3-5 individuals


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