

# STUDENT ENGAGEMENT AND MOTIVATION IN LOWER SET CLASSES WHEN A COMPETITIVE ELEMENT IS INTRODUCED

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## Abstract

Supporting students to actively engage and participate in lessons with high levels of intrinsic motivation and enjoyment is the aim of teachers globally. But the true challenge is achieving this when faced with students who need relentless encouragement to do so, or who demonstrate 'amotivation', a state whereby students see no clear reason to pursue school activities (Vallerand et al., 1992).

At Deira International School, Dubai, I teach the lowest GCSE Science sets, each of which comprises many students who are not intrinsically motivated (or are unmotivated) to learn science and are thus not achieving their potential. Actively participating in their learning will be critical to satisfactory progress as they move through the GCSE courses.

This study explores how competitive classroom tasks impact upon the motivation and engagement of these often passive or 'switched off' learners.

## Literature Review

Self-Determination Theory (SDT) is a well-established framework for understanding types of motivation and their impact on achievement and other school outcomes (Ryan & Deci, 2000; Bureau, 2021). The Academic Motivation Scale (AMS) proposes 7 subscales of motivation ranging from varying levels of intrinsic motivation and extrinsic motivation, to amotivation – it is believed students can move through these subscales (Vallerand et al., 1992). Ryan and Deci (2000) emphasise the importance of satisfying three basic psychological needs – autonomy, competence, and relatedness – in order to foster intrinsic motivation and psychological well-being. If students are more likely to engage meaningfully in learning when these needs are met, could a collaborative, competitive element to learning have a positive impact on motivation to engage?

Although the use of competition to motivate students is considered a contentious practice (Neubert, 2016; Goegan & Daniels, 2022), others also view competition as an important motivator for students (Goegan & Daniels, 2022, Ryan & Reeve, 2024) with many stating that it supports deeper engagement with the learning materials (Learning Lab, 2024). However, competition involves a comparison process between students, and this can affect students' confidence, attitudes, and belief in success (Mussweiler, 2003). In a survey conducted by Goegan & Daniels (2022), 82% of the teachers surveyed reported to intentionally attempt to minimise the focus on competition and social comparison in their classrooms and preferred to emphasise individual competence and learning.

Although the American Psychological Association (APA) defines competition as 'any performance situation structured in such a way that success depends on performing better than others', the advice suggested by Neubert (2016) emphasises the importance of rewarding participation and effort, rather than outcomes. Findings by Chen (2014) suggest that competitive task design should consider the social aspect of competition for lower ability students; in their study, these students preferred social competition over self-competition, whereas middle or higher ability students felt similarly towards both. Ryan & Reeve (2024) analysed studies focused on competitive situations in which people were working to outperform opponents on some mental or physical task, and how this effected intrinsic motivation. Summarising a range of studies, they reported that it 'is possible to present the competitive experience as an informational, needs-supportive, and intrinsic-motivation-friendly way'.

Although many studies focus on competition whereby winning is key, or participation is part of a team, there is less evidence for the impact of competition on students with different levels of extrinsic motivation (and amotivation) when individuals are working co-operatively but 'competing' solo. If competitive tasks were designed to foster cooperation with others, autonomy in terms of type of contributions, and participation rather than winning, per se, would this impact positively on levels of engagement and motivation for this cohort of students? This will be the focus of this study.

## Methods

### Participants

The study involved 31 Year 9 students (9 girls and 22 boys) from the lowest Y9 GCSE Science sets, many of whom were on the SEN / ELL register, have low or erratic attendance, and difficulties self-regulating emotions and behaviour.

### Intervention

6 competition tasks were given to students in selected lessons over a period of 2 months with the aim of improving student motivation and engagement in lessons.

The aims of the competitive tasks were as follows:

1. To improve active participation by increasing student autonomy, competency and relatedness
2. To increase engagement through deeper and more critical thinking
3. To increase motivation to think more and achieve their potential during regular class tasks

During written paired tasks, each student used a different colour of pencil so that responses to the question or problem could be clearly identified for accountability and reward purposes. Points were awarded to each student based on their engagement / thinking, evidenced by responses on the sheet – these responses could be answers, questions about the task or associated concepts, diagrams, or annotations. Design of tasks, outcomes and rewards were devised based on a set of questions posed by Harris II (2023) regarding effectively bringing competition into practice.

### Data collected

Students completed a pre- and post-intervention questionnaire (see Table 2) which asked them to rate motivation, enjoyment, participation etc., thus collecting both qualitative and quantitative data. I also recorded my observations of students during each competitive tasks.

### Results

Points (see Table 1): Many positive comments were recorded on the post-intervention questionnaire, such as, *"Doing this can earn house points, which motivates me to study hard"* and, *"I like the competition tasks we have been doing because I can earn house points"*.

**Table 1**  
**Points Awarded based on Engagement**

Students who...	Number of students	Comments
Collected > 10 points	11	5 students considered as having higher levels of motivation before intervention.  4 students considered 'switched off' / amotivated learners prior to intervention.
Collected < 4 points	7	All absent for 35-50% of tasks
Collected 0 points once	10	Students who achieved both low and high total score

**Table 2**  
**Pre- and Post- Intervention Questionnaire Results**

How confident do you feel about the science you are learning in lessons?	<p>Pre-intervention Post-intervention</p> <p>Not confident Quite confident Confident Very confident</p>
Did the competition tasks help you think about the science more than the usual lesson tasks, and did you enjoy the competitive tasks?	<p>Tasks helped thinking Enjoyed tasks</p> <p>Yes No Maybe / sometimes</p>
How much do you feel you took part in the competition tasks?	<p>1 – never 4 – quite a lot 2 – not much 5 – lots 3 – some</p>
Would you like the competition tasks to continue?	<p>Yes No Sometimes</p>
Which of these options do you prefer when doing the competition tasks?	<p>Working alone Working with my friend Working with the person the teacher puts me with Working with someone I choose from my classmates, but not necessarily with my friend</p>
What did you like about the competitive tasks?	<p>‘fun and helps me learn’, ‘leads to searching for answers’, ‘you try to remember things’, ‘makes me think’, ‘we work together’, ‘makes me remember more science’, ‘most are easy and the rest give you a challenge’, ‘makes me learn better’, ‘fun way to learn with new people’, ‘working with my friends’, ‘it’s competitive’, ‘drawing diagrams’</p>
What did you not like about the competitive tasks?	<p>‘needs more time’, ‘people cheat and get free points which ruins the competition’, ‘sometimes the people I worked with’, ‘when the competition tasks feel challenging or repetitive’, ‘not choosing our own partners’, ‘too much writing’, ‘when your partner is soloing and not giving you a chance to write’, ‘competing with others and worrying about losing’</p>

## Teacher observations

Observations supported house point and questionnaire data. Success in pairings seemed complex, not consistent and unpredictable in some cases. Initial tasks highlighted hesitancy in many students to record their thinking when they were unsure or not confident; after this was explicitly addressed though reminders that points were awarded for evidence of thinking about the task rather than correct answers, written participation generally increased. Knowing that lesson content could become part of competitive tasks seemed to have no impact on engagement or motivation outside of the competitive tasks themselves.

## Conclusion

While this study provides evidence that there is complexity around the factors of motivation and competition in the classroom, it also suggests that for most students, competitive tasks foster a sense of collaboration, enjoyment and deeper thinking. Whilst it may not be surprising that less students reported lack of confidence, the reduction in the percentage of students who were very confident about their learning post-intervention was not expected; by thinking more deeply, were they more reflective and honest about their level of knowledge and understanding? Our confidence will often increase if deeper thinking immediately leads to increased understanding, but we can also feel less confident initially if our deeper thinking leads to confusion before mastery; this was supported by written comments on task sheets such as, 'I need to study this'.

Greater thinking alongside shared enjoyment suggests that the students developed greater competency and relatedness during the competitive tasks which are both drivers of self-determining behaviour. It may have been that the task design and the feedback promoted success and feelings of efficacy, a finding also reported by Talib & DeRoock (2018), and Ryan & Reeve (2024). Students could comprehend and master (in some sense) the competitive task regardless of scientific knowledge and understanding because the rewards were given for 'thinking' rather than correct answers – competency was somewhat scaffolded. The students for whom the competitive tasks increased engagement showed evidence of valuing the activity, and therefore they put the effort into it, an observation also noted by Talib & DeRoock (2018). This was not the case during normal lesson activities suggesting that the task design directly enhanced motivation and participation due to student needs of relatedness and autonomy being met; with connection to another, students could choose what to share in writing.

However, the data also suggests that not all students demonstrated significantly increased participating or thinking. As noted by Johnson & Johnson (2009), individuals perceive that success can only be achieved when the other individuals with whom they are cooperatively linked also attain their goals. This may partly explain why students worked better on some of the competitive tasks than others, as it was dependent on whether the person they were working with was aligned in terms of approach and diligence but also had the interpersonal skills to work in such a manner. We know that some students felt frustrated when working with specific partners, providing evidence that their basic need for relatedness was not being met. It seems that it is not as simple, however, as allowing students to select their own partners; some would prefer to have a partner assigned by the teacher.

Although most students did engage and participate in the tasks, 10 students showed very little participation on at least one occasion. Johnson & Johnson (2009) cite several studies which discuss how, in competitive environments, some learners engage in self-protective strategies, whereby failure in the



competitive task can be attributed to not trying rather than to incompetency. For some, their low attendance has resulted in many gaps in their knowledge which will likely have contributed to low self-esteem and a fear of failure. Time may also have been a contributing factor to lack of written responses for these students on these occasions; increasing the time allocated may give the increased processing and thinking time that these students need. Although the task design promoted and rewarded a 'share anything you know' approach, this clearly needs further exploration for this small group of students.

Individualistic efforts were noted for 4 students who preferred working alone. They were highly motivated to win which meant that collaboration felt frustrating for them, and their partners – their need for relatedness was not met. As discussed by several researchers (cited in Johnson & Johnson, 2009), cooperation can feel too costly or difficult for some students because of the unavailability of skilled potential cooperators, or in a task that feels worthwhile and in which they will be successful. The notably high extrinsic motivation level of these students is a factor that also needs careful consideration when setting up groups and competitive tasks.

Limitations, such as erratic attendance, and unpredictability of student mood or behaviour, had an impact on the quality of data. More than one data collection point pre- and post- intervention would increase reliability.

## Conclusion and Next Steps

Competitive, co-operative tasks do have a place in classrooms if the focus is thinking, but there seems to be a fine balance between engaging 'amotivated' learners and no impact. Further explorations of context specific 'needs-supportive' tasks through the lens of Relational Motivational Theory (Bureau et al., 2021) would be interesting next steps, alongside the impact of explicitly teaching interpersonal and small group skills to help students meet each other's relatedness needs (Johnson & Johnson, 2009). Based on the work of Paulmann & Weinstein (2023), the impact of the teacher's tone of voice on autonomy and relatedness needs satisfaction with this cohort would be fascinating to investigate within the context of competitive tasks.

## References

- Brooks, M., & Young, K. (2011). Are choice-making opportunities needed in the classroom? Using Self-Determination Theory to consider student motivation and learner empowerment. *International Journal of Teaching and Learning in Higher Education*, 23(1), 48–59.
- Bureau, J. S., Howard, J. L., Chong, J. X. Y., & Guay, F. (2021). Pathways to student motivation: A meta-analysis of antecedents of autonomous and controlled motivations. *Review of Educational Research*, 92(1), 46–72. <https://doi.org/10.3102/00346543211042426>
- Chen, Z. (2014). Learning preferences and motivation of different ability students for social-competition or self-competition. *Journal of Educational Technology & Society*, 17(1), 283–293. <http://www.jstor.org/stable/jeductechsoci.17.1.283>
- Goegan, L. D., & Daniels, L. M. (2022). Just a little healthy competition: Teacher perceptions of competition and social comparison in the classroom. *Canadian Journal of School Psychology*, 37(4), 394–405. <https://doi.org/10.1177/08295735221101223>
- Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, 38(5), 365–379. <https://doi.org/10.3102/0013189X09339057>
- Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, 110(3), 472–489. <https://doi.org/10.1037/0033-295X.110.3.472>
- Neubert, J. (2016). *10 ways competitions enhance learning*. Institute of Competition Sciences. <https://www.competitionsscience.org/2016/08/15/10-ways-competitions-enhance-learning/>
- Paulmann, S., & Weinstein, N. (2023). Teachers' motivational prosody: A pre-registered experimental test of children's reactions to tone of voice used by teachers. *British Journal of Educational Psychology*, 93, 437–452. <https://doi.org/10.1111/bjep.12567>

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>

Ryan, R. M., & Reeve, J. (2024). Intrinsic motivation, psychological needs, and competition: A self-determined theory analysis. In S. M. Garcia, A. Tor, & A. J. Elliot (Eds.), *The Oxford handbook of the psychology of competition* (pp. 240–264). Oxford University Press.

Talib, N., & DeRoock, R. (2018). *Motivation strategies for academically low-progress learners* (Working Paper Series No. 12). National Institute of Education, Singapore.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52(4), 1003–1017. <https://doi.org/10.1177/0013164492052004025>