



GET READERS ON THE WAVELENGTH OF EMOTIONS

DATA ANALYSIS

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GROWE:

Data Analysis

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This project aims to develop teacher trainers' and subsequently teachers' competences to address students' literacy and emotional learning needs by developing a model of integrated intervention relying on the use of high-quality authentic texts (different from school textbooks) for children and adolescents.



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1. Overview of Participants and Data Sets

The following gives an overview of the total numbers of trainers, teachers and students the GROWE training course reached from November 2020, when the Learning, Teaching and Training Activities (LTTA) was held, until February 2022, when the trialling of the GROWE approach in classrooms was completed. An outline of the specific numbers of participants included in each data set is also given, with an accompanying rationale, where necessary, as to which data was included and which excluded.

Trainers: 12 trainers were initially enrolled in the GROWE LTTA but only 11 trainers went on to deliver the GROWE training in our partnership schools. To examine the impact of the GROWE project on trainers, therefore, 11 Professional Diaries (PDs) were used, alongside 11 Post-Training Questionnaires (PTQs). In addition, 4 modified PTQs questionnaires, which were given to senior managers within each partner organisation, were used for additional insight into the perceived effectiveness of the GTCC.

Teachers: The GROWE training initially reached 103 teachers across the four partnership countries. Out of these 103 teachers, 72 completed the training. To examine the impact of the GROWE training on the participating teachers, however, Teacher Questionnaires (TQs) from 35 teachers and GROWE Training Portfolios (GTPs) from 61 teachers were used. There was a relatively low return rate of the questionnaires and, in addition, not all participants returned both the Pre-Training (TQ1) and the Post-Training Questionnaires (TQ2). To allow for a robust examination of the impact, only those questionnaires which had a reliable Pre- and Post- Questionnaire match were used. There was a higher completion rate for the GROWE Training Portfolios (GTP), but only those portfolios which had tasks completed for all five training modules were included in the sample for analysis. It is significant to note that the data has been drawn from a relatively even distribution of disciplines. 47% of the participating teachers were teachers of STEM subjects, 42% of Humanities subjects and 11% of Performing Arts subjects. This spread can give some confidence to the tentative conclusions which can be drawn as to the efficacy of the GROWE training and the GROWE project.

Students: The GROWE approach reached approximately 2575 students at the outset of the project and approximately 1800 were involved by the end of the trial. From this number, 56 students' progress in DL and SEL has been successfully tracked by their subject teachers via the Student Tracking Questionnaires (STQs), completed at the beginning of the training and at the end of the trialling period. Not all participating teachers returned both STQ1 and STQ2 and, out of the sample returned, only 30 questionnaires could be reliably matched. From this sample, 7 questionnaires tracked different students in STQ1 and STQ2 and 5 questionnaires revealed a significant mismatch between the levels and grades awarded the making them unreliable. These 12 questionnaires were consequently removed from the data set. The tracking questionnaires were complemented by focus interviews to further evaluate the impact the GROWE approach has had on students' DL and SEL competences and to capture the student voice. 59 students across the partnership countries have been involved in the interviews. Panels were between 4-9 students, ranging from 11 to 18 years. All but 3 teachers asked the pre-prepared interview questions. The groups who were questioned using the modified script were excluded from some of the analysis as questions asked 'through the years' rather than 'during the project' so elicited general learning comments.

Due to the relatively small group sizes in all data sets, the patterns identified in the data are not statistically significant. In addition, the timeframes of the project were severely affected by the pandemic. The LTTA was delayed by five months which meant that the piloting phase of the training

course needed to be reduced to 6 months rather than the full academic year as planned, and so the impact has had less time to take effect. However, the emerging patterns can identify potential trends, raise questions and identify future areas for development.

	UK			ITALY			ROMANIA			LITHUANIA		TOTALS	
	At Outset	At End		At Outset	At End		At Outset	At End		At Outset	At End	At Outset	At End
TRAINERS	3	2		3	3		3	3		3	3	12	11
Professional Diaries	2	2		3	3		3	3		3	3	11	11
PTQs		2			3			3			3		11
PTQs (Senior Managers)		1			1			1			1		4
TEACHERS	5	2		10	4		60	38		28	28	103	72
Portfolios	3	2		4	4		35	27		28	28	70	61
TQ1	5			3			45			18		71	
TQ2		2			3			24			11		40
TQ Sample used	NB: Only 35 TQs could be reliably matched to be used in the data analysis sample.												35
STUDENTS	≈ 125	≈50		≈250	≈100		≈ 1500	≈950		≈700	≈700	≈ 2575	≈1800
STQ1	8			6			120			21		155	
STQ2		8			6			75			18		107
STQ Sample used	NB: Only 18 paired questionnaires could be included in data analysis sample. 1 questionnaire tracked 5 students.												56
Interviews		9			0			32			18		59

Figure 1: Overview of Numbers of Participants and Numbers in Data Sets

2.1 Impact of GROWE on Participating Trainers

The impact of GROWE on trainers was fairly positive across the board, despite the recurring concern regarding the reality of teachers being able to implement the curriculum in this form/size, given other pragmatic classroom considerations. Trainers' professional diaries reflect the ambitious scope of this project and focus both on its perceived successes ('I am starting to see evidence of practitioners embedding the approach, if not seamlessly, then at least enthusiastically, into their practice') and areas for development ('there are some subjects where the link between DL and SEL and how it should be modelled in the classroom, is, itself, hard to model'). Trainers also note how the mode of delivery employed by individual partnerships (in some cases, asynchronous), resulted in useful professional development, and honing of their own practice, e.g. 'I needed to think carefully about the learning materials, trying to maintain as much interactivity as possible'. Indeed, the overall interactivity of the approach is something that arises frequently in the data relating to participating trainers' testimony. One trainer discusses their cultivation of a 'learning community', whilst another channels Stanley Fish's notion of 'interpretive community' in their discussion of group work opportunities utilised in reading comprehension practice. Writing and written tasks frequently take a back seat compared to reading comprehension.

The PTQs give a range of insights into the feelings of trainers regarding the GROWE approach. From a structural standpoint, it was generally believed that the case was successfully made for the 'blend', so central to the GROWE approach, between DL and SEL. That said, in terms of specific competences, one questionnaire participant felt that C1.1 and C1.2 should be swapped in order to devote more time to considering the importance of DL and SEL, before aiming to cover how they may be applied from a curriculum standpoint.

Most participants felt that the overall clarity and consistency of the training course was sound, albeit one or two issues with the sequence of modules were highlighted (i.e. the need for modules 3 and 4 to be swapped). An argument was also made for the removal of the 'formal' summative assessment stage used in the initial iteration of the GTTC, and replacement with a more ongoing process of teacher reflection. This was attributed to the need to maintain participant 'goodwill', which may potentially be affected if they feel they are being overly assessed with no resulting qualification stemming from this assessment.

The overarching belief regarding the presentation of the modules was that they were strong, with specifically linked (free) resources and the identification of training goals highlighted alongside competences, being mentioned as particular strengths. Some trainers mentioned that the time allocations for the material contained in each module was not long enough to entirely do justice to everything the module aimed to cover, however.

In terms of the specific modules, questionnaire participants gave a variety of responses. Key terminology definitions were frequently cited as a positive aspect across the different modules, with M1's emphasis on what DL and SEL actually are and how they contribute to the GROWE approach, being highlighted as particularly effective. Some participants felt that M1 was lacking in examples to elucidate key concepts, and one participant noted that they felt the portfolio task was lacking in clarity, in terms of overarching guidelines regarding the task's expected presentation. It was also highlighted that teachers may find it useful to reflect on students they have taught previously in their careers (rather than entirely focusing on their current cohorts), in reflecting on practice necessitated for portfolio responses.

Most participants felt that the concept of authentic texts was explored effectively in M2. However, the possibility of giving more examples for using authentic texts across diverse disciplines was suggested. Similarly, for more theoretical models and concepts such as Vygotsky's 'Zone of Proximal Development', some commenters felt that the GTTC needed to direct participants to associated reading and resources to help them develop a better overall understanding.

M3 had different responses that were often country specific. UK trainers felt that since their participants already had such a solid grounding in assessment for learning (AfL) approaches, the time spent covering this was often superfluous. As such, the need for a flexible approach to bear in mind the existing level of understanding of participants was suggested. The use of videos in this module was, for one trainer, a strength. They suggested that key approaches could be illustrated by the broader use of video resources in M3.

M4 was deemed to be successful due to the broad sweep of its approach, and the ability to adapt the GROWE model for both middle and secondary school learners. That said, there was also, one commenter believed, an argument for giving a greater focus on SEL to embed the necessary skills more successfully. Again, time constraints were also given as an issue pertaining to this module.

M5 had a number of positive elements, commenters believed. Its emphasis on group work and formative assessments using checklists were highlighted as pros. However, some commenters noted that the integration between DL and SEL was not always overt enough in this module, nor was it indicated effectively enough in the checklist. It was also felt that more training time was necessary to effectively implement this module, with one commenter suggesting the possible role a delivery approach such as a webinar could take to further support participants.

Views pertaining to the assessment approaches GROWE uses were mixed, with one commenter stating their belief that the 'the rubrics were clear enough for the trainers but not always clear

enough for the trainees. Maybe, we should allocate time to discuss the rubric statements with the trainees.' Time, and notably the scarcity of it, appears again as an issue. As mentioned before, there is an argument that the formal assessment of teachers' engagement with GROWE is 'overkill' because it does not lead to any formal certification or accreditation. Whether this aspect needs to be included moving forward will need to be discussed as a partnership.

Perhaps predictably, where questionnaire participants have included additional comments, they frequently relate to the length of the training and the time needed for teachers to participate in this. There is a question over how feasible such commitment would likely be for the majority of teaching staff. Therefore, one way to tackle this could be the adoption, moving forward, of the 'GROWE lite' approach, drawn up by a trainee in the UK. This is designed to narrow down the scope of the training curriculum to only include its 'bare essentials', therefore making it more attractive to a wider audience of beneficiaries.

2.2 Impact of GROWE on Participating Teachers

2.2.1 Understanding the role DL and SEL play in student learning

An analysis of the TQ1 and TQ2, alongside the GROWE training portfolios, reveals that there has been a modest but identifiable impact on the participating teachers' understanding of the role played by DL and SEL in supporting students' learning across the curriculum. Analysis of the TQ1 and TQ2 reveals there has been a 4.9% increase in the perceived importance of DL, a rise from an average of 8.7 on a 1-10 rating scale at the outset to an average of 9.2 at the end, and a 6% increase in the perceived importance of SEL, a rise from an average of 9.1 at the outset to 9.7 at the end (see Figure 2).

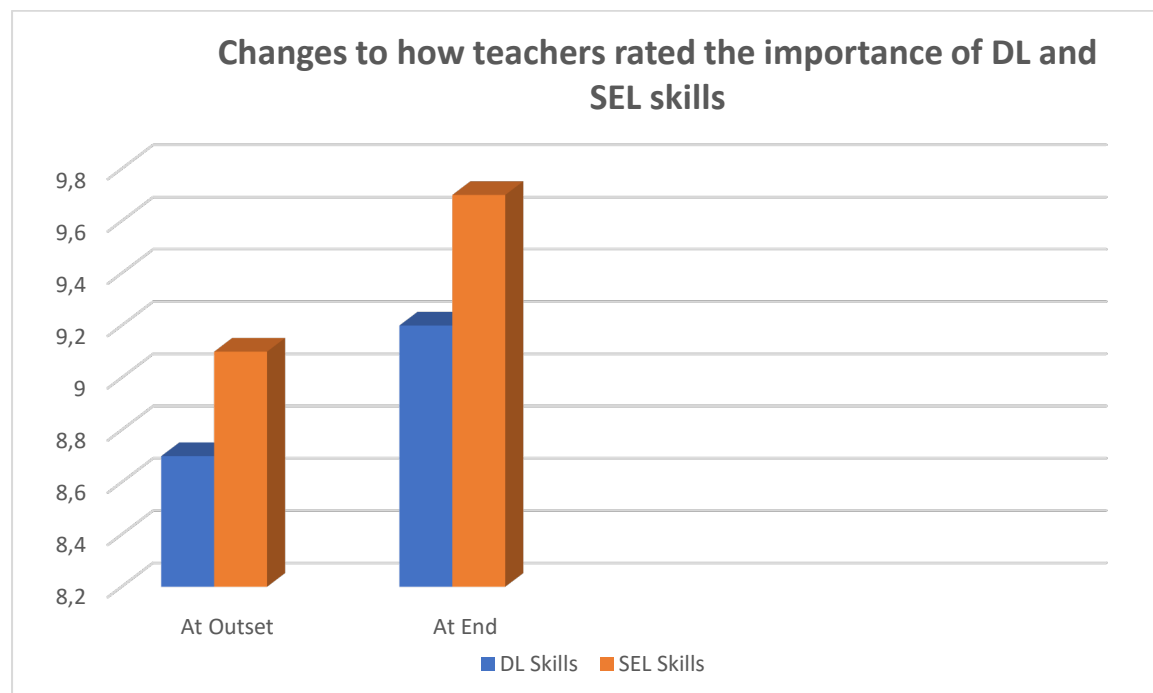


Figure 2: Changes to how teachers rated the importance of DL and SEL skills

An overview of the grades achieved across the GTP can be seen in Figure 3, but an analysis of the grades achieved in the portfolios based on the specific tasks focussing on developing the teachers' knowledge and understanding of DL and SEL (Tasks 1.2 and 1.3), reveals 84.4% of the participating teachers were graded as achieving 'Excellent' or 'Good', 35.2% of which were graded as 'Excellent', and only 5.0% as 'Basic' (see Figure 4).

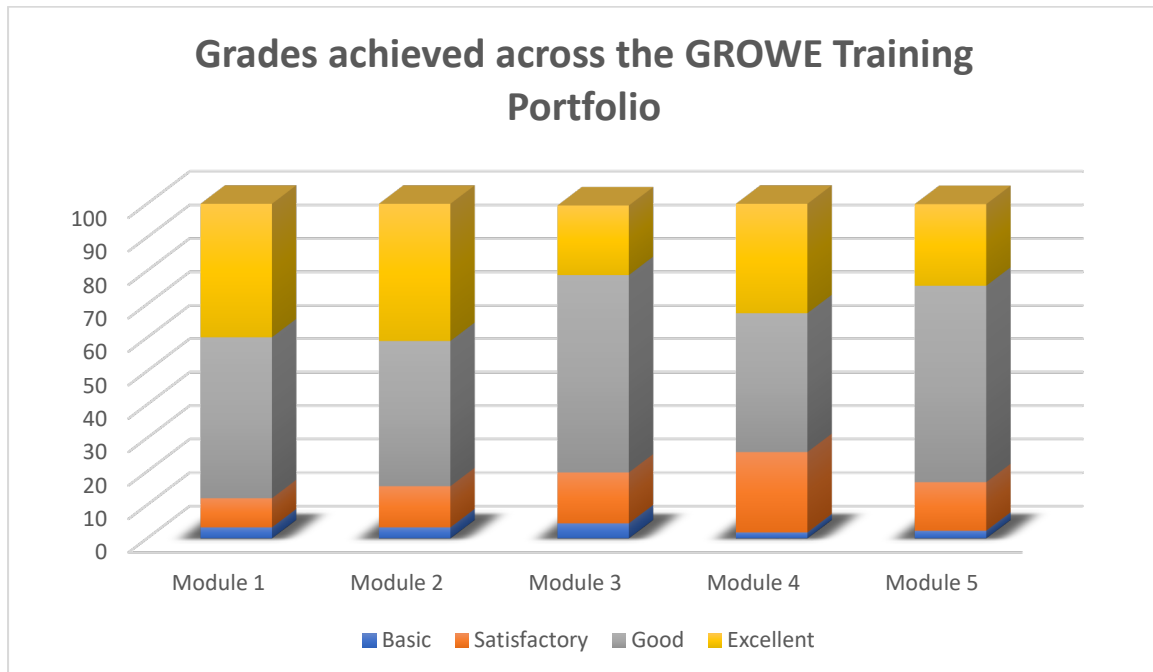


Figure 3: Grades achieved across the GROWE Training Portfolio (GTP)

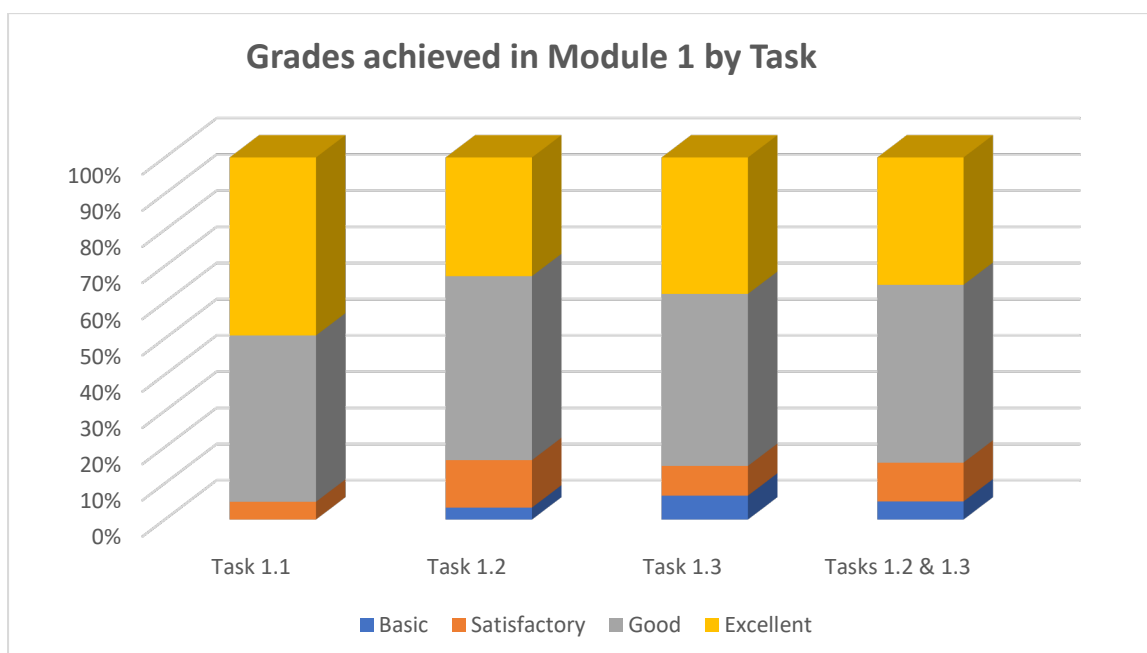


Figure 4: Grades achieved in Module 1 by Task

A closer analysis of the initial teacher questionnaires (TQ1) revealed that there was already a very strong understanding of the importance literacy skills play in supporting students' progress across the curriculum, irrespective of subject, across the partnership, before the GROWE training began. 48.6% of the participating teachers rated DL as a 10 on the 1-10 rating scale and there was an average mark of 8.7 given. As one teacher commented 'literacy skills have a direct link to learning outcomes' (Lithuanian Teacher of Lithuanian). However, the GROWE training has nonetheless had an impact, if a modest one, on the remaining 51.4% who graded the importance of DL below '10'. As stated above, overall, the average mark rose from 8.7 in TQ1 to 9.2 in TQ2, a 4.9% increase, a figure which rises to 10% when those teachers who graded the importance of DL as a 10 are removed from the sample. Comments such as literacy skills are 'transversal to all learning' (Italian Teacher of Italian), that they 'support efficient learning' (Romanian Teacher of Chemistry) and are 'the basis for learning in every discipline' (Lithuanian Teacher of Maths) were widespread at the end of the project and indicate the strong theoretical acknowledgement amongst the participating teachers of the role DL plays in the learning process throughout the curriculum facilitated by the training. This understanding is neatly captured by a Maths teacher's comment: 'DL is necessary to be able to read and understand a Maths text, to present thoughts consistently, to justify, to write a decision correctly in mathematical language' (Lithuanian Teacher of Maths). The training has successfully enabled teachers across STEM, Humanities and Performing Arts subjects to understand how the literacy conventions inherent within their subject areas are necessary to support students' progress within it. It is worthy of note that one teacher commented in TQ1 that 'minimal abilities [in literacy] are enough' but in TQ2 had re-evaluated, stating that 'the ability to read is essential, not only in language classes' (Lithuanian Teacher of Religion) and a further teacher commented that they now have 'a broader concept of what literacy means in [their] subject' (UK Teacher of Music) which neatly illustrates the impact the GROWE training has had on those teachers who were initially more hesitant in their assessment of DL and how the training has been provided an effective framework to deepen their understanding of literacy as it applies to the learning in their subject.

The questionnaires revealed an equally strong appreciation of the importance of SEL before the project began and also a modest improvement by the end of the project. The average grade on the 1-10 rating scale, as previously stated, was 9.1 at the beginning of the training which rose to 9.7 at the end, a 6% increase. Although 40% of participants rated the importance of SEL as 10 both before and after, in comparison to the 48.6% for DL, the average started marginally higher at 9.1, as opposed to 8.7 for DL, and there was a larger increase, 6%, as opposed to 4.9% for DL. The recognition of the central role SEL plays in academic learning across the curriculum was similarly noted. The link between strong social and emotional skills and academic achievement was variously identified by a variety of subject teachers. One Technology teacher commented 'students learn much more efficiently in a favourable social-emotional context' (Romanian Teacher of Technology) whilst a Social Sciences teacher observed that 'when the student learns happily, the process becomes easier and more efficient' (Romanian Teacher of Social Sciences). The need to see social and emotional skills as an intrinsic element of the learning process, rather than just a nurturing context, however, was noted by a Social Pedagogy Teacher who commented that social and emotional skills are 'like tools without which learning is impossible' (Lithuanian Teacher of Social Pedagogy) and the link between these skills and students' focus and motivation was acknowledged by a Maths teacher who observed 'students who are happier and more content are more attentive' (Romanian Teacher of Maths). The impact these skills can have, not just on academic performance, but also in life was identified by another Maths teacher, who commented that 'they are the cornerstones for success in life, both academic and personal' (Romanian Teacher of Maths).

It was recognised, however, that students' emotions can thwart the learning process as well as strengthen it: 'we experience the world with our emotions, some help us to learn, others block our learning' (Italian Teacher of Italian). Several teachers observed that self-regulation was therefore vital in ensuring students' emotions supported a positive learning process, neatly captured by this teacher's observation: 'it is very important to be able to recognise your emotions, understand them, associate with them and manage them' (Lithuanian Teacher of English).

A further theme which emerged through the qualitative comments in the questionnaires was the acknowledgement of the collaborative nature of learning and the role empathy plays in this. One teacher noted that 'to facilitate learning...students have to be aware that they have to learn and collaborate as best as possible with their classmates' (Romanian Teacher of Environmental Studies) and another noted the importance of respectful relationships in creating 'a positive microclimate to improve and develop' (Lithuanian Teacher of Ethics). Indeed, one teacher in her portfolio considered how she challenged a student's discriminatory views by 'allowing her to feel heard, vent her feelings, but then empathise with others and see why we couldn't allow those views in the classroom' (UK Teacher of Biology). Learning can be an individual process, but, ensuring students have the necessary collaborative skills equips them to learn more productively.

These identified gains in the participating teachers' knowledge and understanding of the GROWE model were mirrored across the GROWE training portfolios. As previously stated, 84.4% of the teachers were graded by their trainers as achieving 'Excellent' or 'Good' in the tasks focussing specifically on developing their knowledge and understanding of DL and SEL (Tasks 1.2 and 1.3), 35.2% of which were graded as 'Excellent', and only 4.9% as 'Basic'. Although the participating teachers performed comparatively better in Task 1.1, where 49.2% were awarded 'Excellent' and 0% were awarded 'Basic', perhaps not surprising as Task 1.1 was rooted in their familiarity with their subject curriculum, these gradings nonetheless indicate that the training course has successfully enabled the participating teachers to build a conceptual framework for the GROWE model.

So, the GROWE training has had a modest, but nonetheless identifiable impact on the participating teachers' understanding of the role DL and SEL play across the curriculum. But has this increased theoretical appreciation, alongside the more practical aspects of the GROWE training, led to changes in the teachers' practice?

2.2.2 Implementing the GROWE model

When considering the amount of curriculum time the participating teachers have devoted to the development of DL and SEL in their teaching, and whether the increase in perceived importance of DL and SEL has led to more teaching time, the project has had a minimal impact. A comparative analysis of the responses in TQ1 and TQ2 reveals that the teachers have not increased classroom time to either DL or SEL significantly. At the outset of the project, 71% of the teachers estimated that they gave explicit focus to DL in either every lesson or the majority of lessons and this figure remained unchanged at the end of the project, indeed a slight decrease was seen in for those teachers considering they focussed on DL in 'Every Lesson'. The case for SEL was a little more positive. At the outset, slightly higher than for DL, 74.3% of the participating teachers estimated that they gave explicit focus to SEL in every lesson or the majority of lessons which rose by 2.8% to 77.1% at the end (see Figure 5).

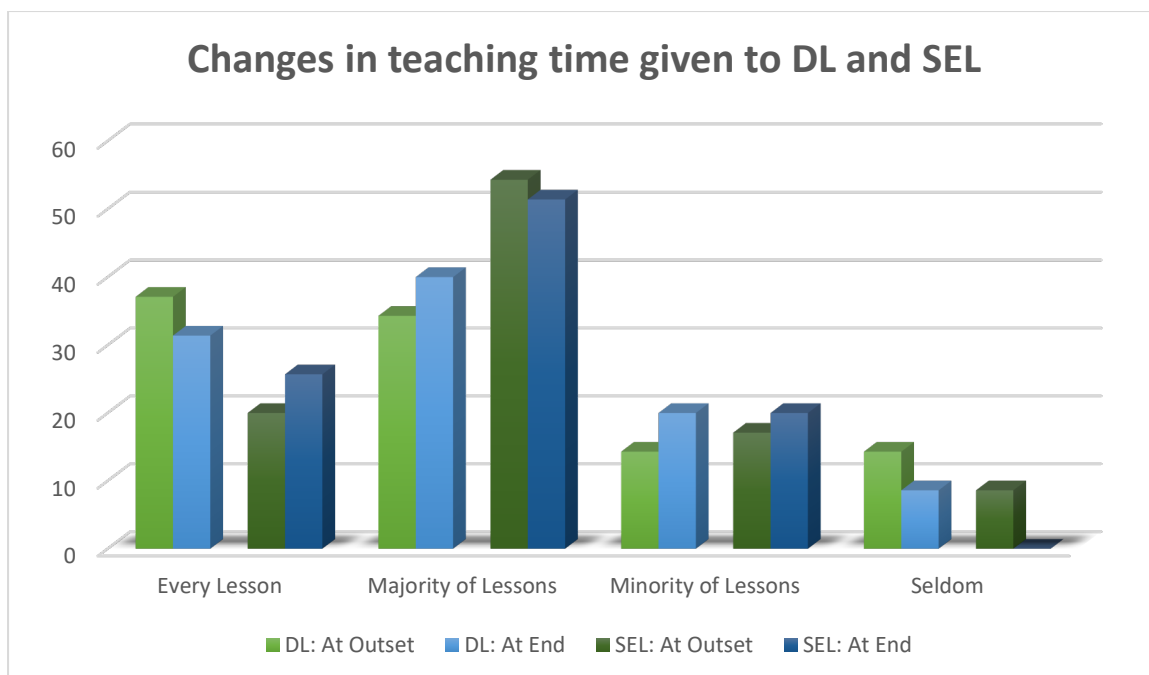


Figure 5: Changes in teaching time given to DL and SEL

Whilst 71% and 77.1% respectively are in themselves possibly encouraging statistics and suggest that the students are receiving learning opportunities to address their literacy and socio-emotional needs in well over two thirds of their curriculum time, in almost a third they are not. Considering one teacher noted that ‘it is necessary to learn to present your work in the correct language of science’ (Lithuanian Teacher of Biology) and another noted ‘the link between emotional competence and learning effectiveness is becoming increasingly clear’ (Italian Teacher of Italian), it is puzzling why a greater shift has not been achieved. In their qualitative comments, the teachers identified a range of barriers, such as an already overcrowded curriculum, the need to prepare for assessments and the nature of certain topics, which prevent them from spending more time on DL and SEL, despite their stated desire to do more. Curiously, as identified above, for some teachers, they felt they were dedicating less time to DL and SEL at the end of the project in comparison to the beginning of the project which suggests that a greater understanding of what constitutes DL and SEL teaching could be at play. Once they were aware of the scope of DL and SEL, they might have come to realise that what they previously considered to be an explicit focus was, in fact, less so than hitherto thought. It is clear, however, that the acknowledged need to prioritise DL and SEL in teaching time is emerging across the participating teachers, if it is yet to be implemented.

In terms of the specific strands within DL and SEL, however, some interesting patterns emerge from the data (see Figure 6). For DL, ‘Writing for Thinking’ was the least likely to be given an explicit focus both before the project began and at its end. At the outset, teachers judged that only 37.1% of lessons would be ‘very likely’ to include ‘Writing for Thinking’, which rose to just 42.9% at the end of the project. Although it remained the least favoured strand of DL, there was nonetheless a 5.8% increase in pedagogic focus prompted by the GROWE training. ‘Reading Comprehension’, on the other hand, was the most likely to be given an explicit focus at the outset of the project. Teachers judged that 80% of their lessons would be very likely to include ‘Reading Comprehension’ when the project began, which fell to still a relatively high assessment of 71.4% at the end. Interestingly, ‘Collaborative Talk’ was the most likely to be given an explicit focus at the end, however. Teachers judged that 65.7% of their lessons would be very likely to include ‘Collaborative Talk’ when the project began, which rose to 74.3% at the end, an increase of 8.6%. The GROWE approach, despite

being text-based, has seemingly successfully unlocked the potential for talk, and therefore the opportunity to acquire and apply socio-emotional skills.

For SEL, the data reveals that teachers were more likely to focus on 'Relationship Skills' than 'Self-Awareness' both before the project and at its end (see Figure 6). Teachers judged that 42.9% of their lessons would be 'very likely' to include a focus on 'Self-Awareness' whereas they judged 53.6% of their lessons would be 'very likely' to focus on 'Relationship Skills' at the outset of the project. At the end of the project, the 42.9% for 'Self-Awareness' rose to 51.4%, an increase of 8.5%, and the 53.6% for 'Relationship Skills' rose to 75%, a significant increase of 21.4%. It is perhaps unsurprising that 'Relationship Skills' has been so dominant, given the age range GROWE is targeting. Whilst one teacher commented that 'relationship skills are more important in adolescence' (Romanian Teacher of Technology), another teacher commented that collaborative tasks 'facilitate learning and make it more enjoyable' (Romanian Teacher of Environmental Science). Moreover, the increases suggest that GROWE has been successful in facilitating more purposeful SEL teaching, targeting specific areas of SEL. The qualitative comments indicate an emerging appreciation that self-awareness is linked not only to focus, attention and motivation but also to strong relationship skills: 'they are inextricably linked and good, respectful relationships are not possible without self-reflection' (Lithuanian Teacher of Ethics). The GROWE model would seem to have provided teachers with the tools required to focus more effectively on self-awareness, even if comparatively more time is spent on supporting positive relationships, with one teacher remarking that 'self-awareness is easier to articulate now I have the capacities to refer to' (UK Teacher of Biology).

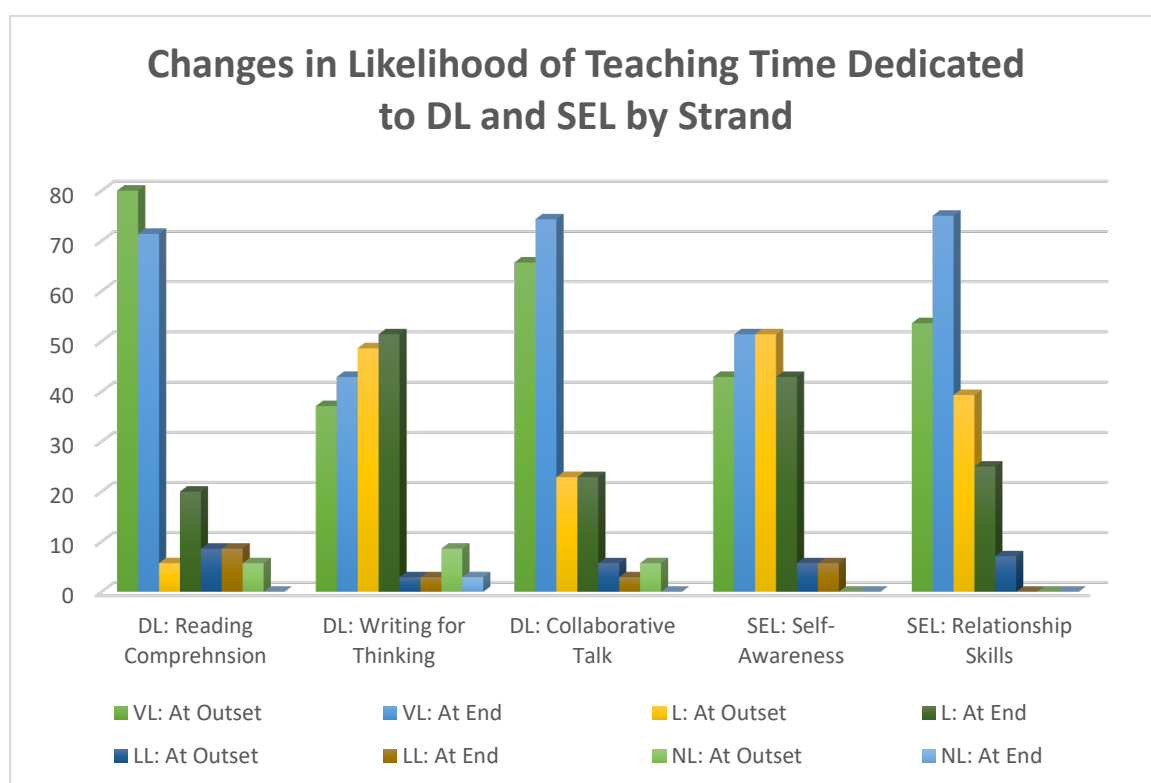


Figure 6: Changes in Likelihood of Teaching Time dedicated to DL and SEL by Strand

As a key principle that the GROWE approach is based upon is the need to teach DL and SEL capacities explicitly, rather than merely offering students opportunities to practise them, it was important to evaluate how well the GROWE training course has upskilled teachers in this regard. Here a more significant impact of the project can be seen, especially for SEL. The GROWE training course has led to a notable 5.7% decrease in the numbers of teachers only offering opportunities to practise DL skills without any accompanying explicit teaching of strategies and a highly notable 41.5% decrease in teachers offering only opportunities to practise SEL skills. (See Figure 7)

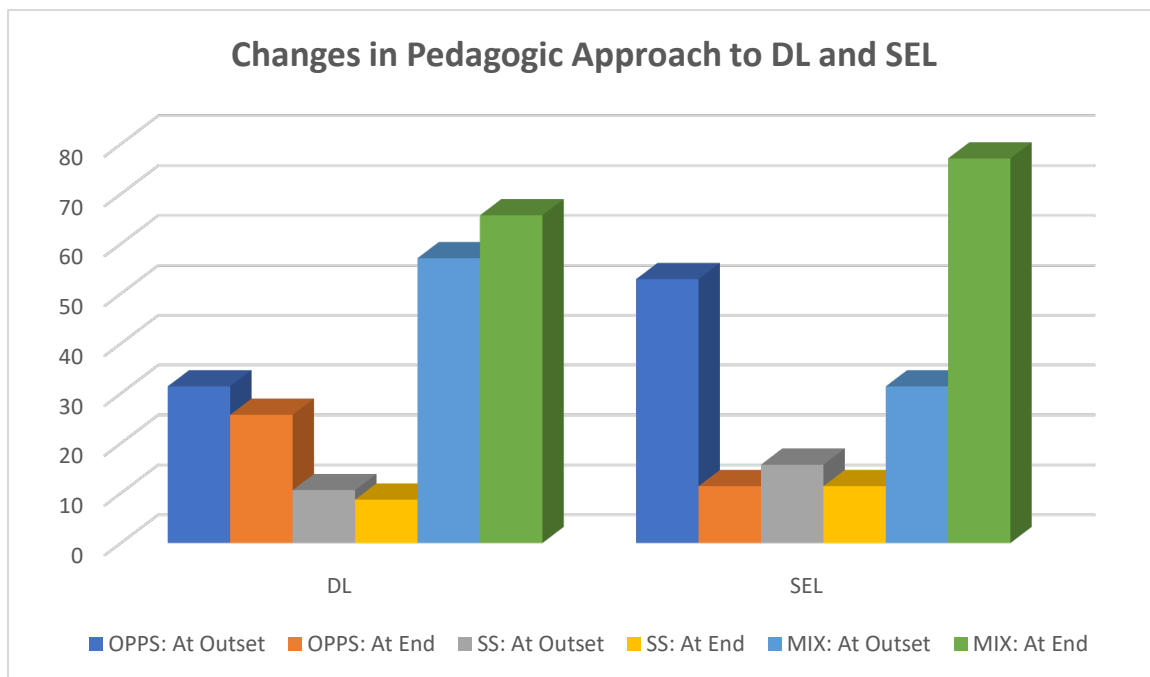


Figure 7: Changes in Pedagogic Approaches to DL and SEL

When the data is examined more closely, further interesting patterns begin to emerge. On average, at the outset of the project, teachers have given opportunities to practice without any accompanying explicit teaching most often for 'Writing for Thinking' in DL and 'Self-Awareness' in SEL, but whilst 'Self-Awareness' falls from 62.9% to 20%, 'Writing for Thinking' actually rises from 40% to 42.9% (see Figure 8), possibly reflecting the increased understanding of the scope of DL. Additionally, 'Collaborative Talk' not only was the strand of DL which had the highest instance of blending strategies with opportunities to practice at the end of the project at 77.1%, despite not being the highest at the beginning, there was also the greatest shift of 14.2%, compared to 11.4% for 'Writing for Thinking' and 0% for 'Reading Comprehension'.

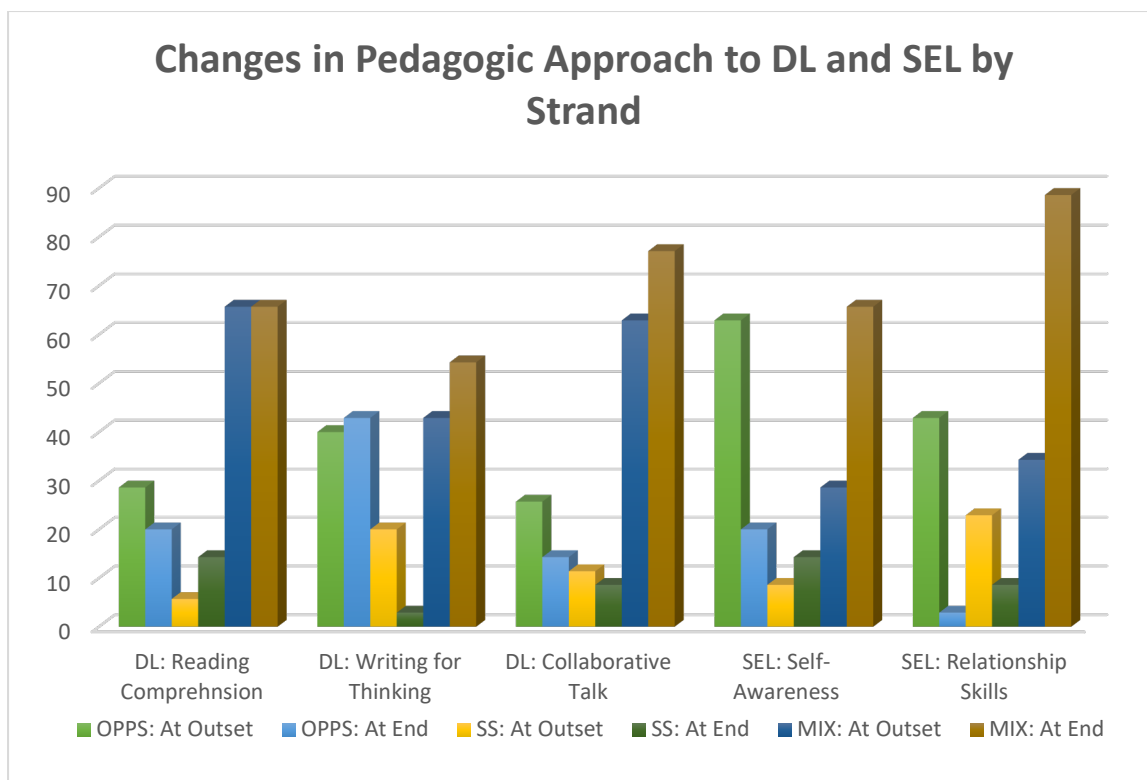


Figure 8: Changes in Pedagogic Approach to DL and SEL by Strand

These results indicate a significant shift in teachers' classroom practice across most strands. Whilst at the outset of the project, as previously noted, there was a well-established appreciation of the importance of DL and SEL and substantial time given to nurturing these capacities, there seems to have been a less well-established understanding of how to do so. One teacher commented in TQ1 that 'the structure of lessons and tasks naturally encourages the development of these competencies' (Lithuanian Teacher of Physics) and another that 'by using teamwork in class, I create the context in which students have the opportunity to develop their socio-emotional skills' (Romanian Teacher of Technology). It is exactly this belief that DL and SEL skills will develop 'naturally' given the right 'context' that the GROWE project was seeking to challenge. The identified shift away from only offering opportunities to practise these skills suggests GROWE has led to positive and significant change. This shift is exemplified in one teacher's journey, who, at the outset of the course, stated that they 'do a lot of groupwork but without teaching the skills to do it' (UK Teacher of Music), but commented at the end that they 'support the students with strategies more, when it is needed, rather than mixing the groups up' suggesting that this teacher found an explicit didactic focus to be more effective than merely varying the context and that they now have the required skillset to implement the required strategies. Moreover, the range of qualitative comments in TQ2 showed a widespread consensus at the end of the project that, blending explicit teaching to enable students to acquire DL and SEL skills with opportunities to practise and apply them is the most effective approach. This understanding is reflected in the following comments: 'they work best in combination' (Romanian Teacher of Geography), 'a mixture of both seems to be the most efficient method' (Romanian Teacher of History), 'strategies need to be taught, but without practice they will not work out' (Lithuanian Teacher of English), 'from now on, I'm using a mixture of both and the students enjoy it!' (Romanian Teacher of Biology).

Clearly, the ability to successfully combine the strategies (through which students can acquire specific DL and SEL capacities) with opportunities (during which students can systematically apply

these capacities), rests on a range of competences that the GROWE training seeks to build. An analysis of the teachers' portfolios indicates that the training course has targeted these competences successfully. In Figure 3, the grades achieved across the portfolios reveal that 81.8% of the participating teachers achieved an average of 'Good' or 'Excellent' and only 3% were awarded 'Basic'. Across the tasks in which teachers demonstrate their knowledge and understanding of effective strategies and approaches to support DL and SEL, how to implement the GROWE model (Tasks 1.1, 2.1, 3.3, 4.3, and 5.3), the picture is similar. 82.2% of the participating teachers were graded as 'Excellent' or 'Good' and only 1.7% as 'Basic' (see Figure 9). Across the tasks in which teachers demonstrate their classroom delivery of the GROWE approach (Tasks 2.2, 3.1, 3.2, 4.1, 4.2, 5.1 and 5.2), 80.8% of the participating teachers were graded as 'Excellent' or 'Good' and only 3.5% as 'Basic' (see Figure 9). Within the former set of tasks, the ability to identify the links between DL and SEL and subject specific curricula was a particular strength and offers therefore a strong basis from which the GROWE model can be launched. An area of comparative weakness, however, can be identified in the teachers' abilities to analyse and reflect on the student data gathered and this might present an area that the training could usefully focus on in future iterations. This weakness is reflected in the latter set of tasks, too. Module 3, Assessment for Learning in GROWE, was the module in which the teachers performed the least well, with a significantly lower number of teachers achieving the top grade of 'Excellent': only 20.8% achieved 'Excellent' for Module 3, in comparison to 39.9% for Module 1, 41% for Module 2, 32.7% for Module 4 and 24.4% for Module 5 (see Figure 3). Unless teachers are able to master formative assessment strategies as they apply to GROWE, then the GROWE model's success is going to be limited.

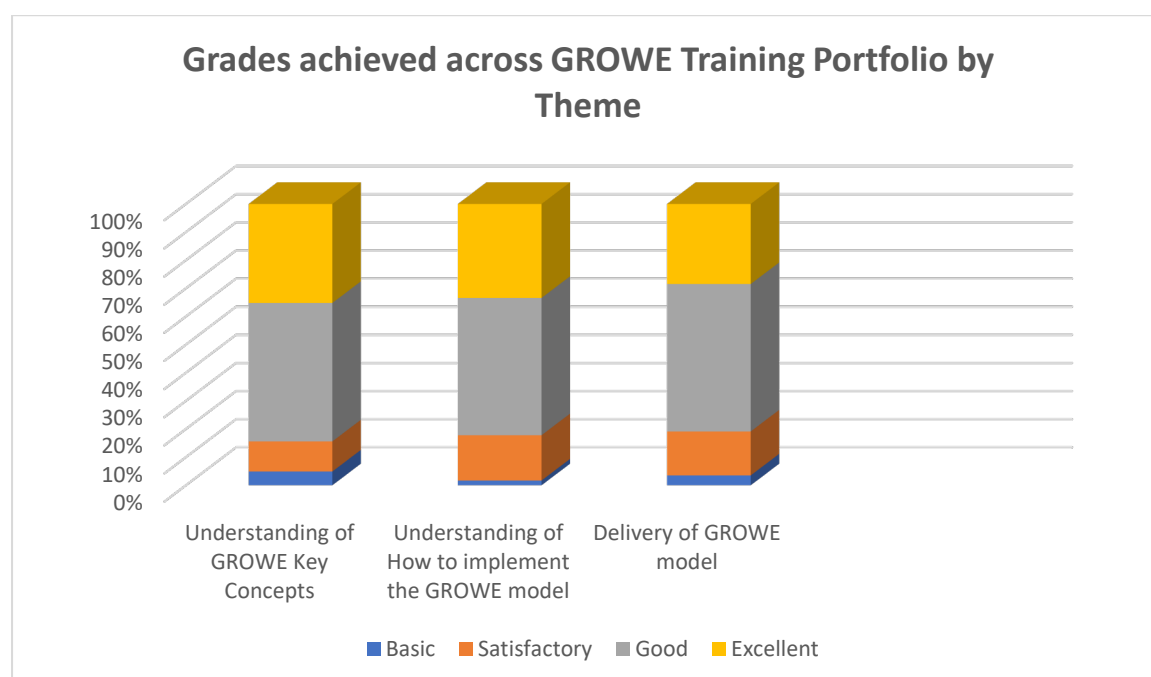


Figure 9: Grades achieved across GROWE Training Portfolio by Theme

Whilst the GROWE training course can be seen to have successfully challenged the participating teachers' pedagogy and to have started the process of upskilling them, the teachers' own confidence in this professional development is more muted. At the outset of the project there were surprisingly low levels of confidence in implementing DL and SEL strategies, given how important they rated these skills as being. On a 1-10 rating scale, the teachers assessed their confidence at an average of

5.6 for DL and 5.4 for SEL. By the end of the training, these confidence levels rose to 7.3 for DL and 6.9 for SEL, which, whilst indicating a notable impact of the training (a 17% increase for DL and a 15% increase for SEL), still suggests there is some way to go in terms of securing teachers' skills to address students' DL and SEL needs effectively.

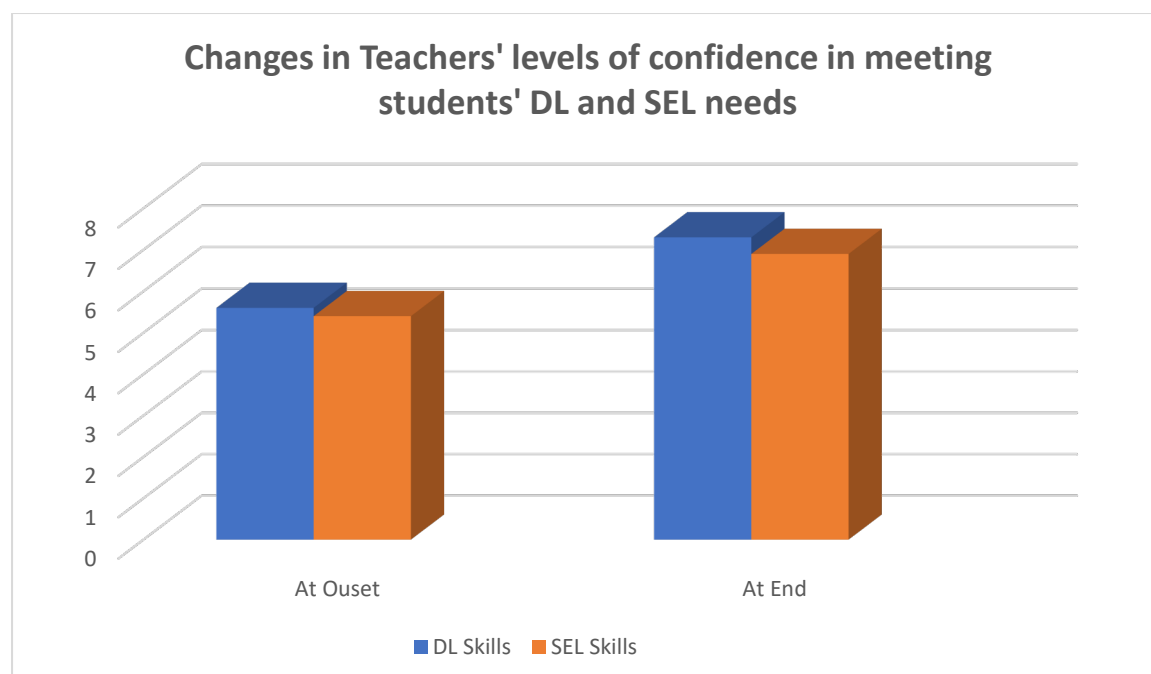


Figure 10: Changes in Teachers' levels of confidence in meeting students' DL and SEL needs

Moreover, when the data is scrutinised more closely, in some cases teachers have curiously rated their confidence lower at the end, than at the outset. This could be due to the training opening the teachers up to the range of specific competencies both DL and SEL cover and the range of new strategies which can be employed to support their development, thus revealing the scope of DL and SEL tuition and boosting the awareness that considerable expertise in implementing these strategies is still needed in order for meaningful learning to be fostered – 'unknowns' have become 'knowns' and consequently the need for further professional development has become apparent. As one teacher commented: 'I think I still have a lot to learn in applying certain strategies in the classroom' (Romanian Teacher of Computer Science). The appetite for such ongoing development was, however, evident, suggesting that the GROWE training has prompted pedagogical change which will continue beyond the project, exemplified in one teacher's comment that they 'intend to keep exploring those strategies [they] have yet to use' (Romanian Teacher of Social Studies)

2.3 Impact of GROWE on Students

2.3.1 Rates of progress within DL and SEL

To determine the impact, if any, the GROWE model has had on the participating students' DL and SEL skills within the timeframe of the piloting phase, the teachers' professional judgements were used, as captured in the STQs, alongside the students' perceptions, captured in the focus interviews.

The tracking questionnaires provided an assessment on a 10-point scale. The interviews were analysed for articulation of the capacities, progress and comments of note. Grading was on a 5-point scale. This scale was used, partly to avoid confusion with the capacity rating in the STQs, but also because there was not enough data to rate on a 10-point scale. 5 denoted strong articulation of understanding in the interview, 0 denoted no articulation of understanding in the interview.

An analysis of the STQ1 and STQ2 reveals that students made progress in both DL and SEL over the piloting period (see Figure 11). The 15.9% increase in DL skills and the 12% increase in SEL skills reflect the shift in explicit focus the GROWE training course has achieved in the participating teachers' pedagogy (see Figure 7) and their increased professional development in using targeted strategies as evidenced through the portfolios (see Figure 3). There was marginally more progress recorded in DL at 1.59 on average compared with SEL at 1.2 on average. This may be because disciplinary vocabulary and skills are practised more often in every lesson (see Figure 5) and may mirror the teachers' greater confidence levels in delivering DL as opposed to delivering SEL (see Figure 10) and in some countries the social and emotional terminology and approaches are newer to the students. There was a marked decrease in scores for 3 capacities in the UK (DL: Writing for learning; SEL: Self-awareness and SEL Relationship skills) caused by the teachers realising they had overestimated their student's skills at the start of the project and correcting this error.

Country		Average change in competency rating on the student tracking questionnaire				
		DL-Reading Comprehension	DL-Writing for Learning	DL-Collaborative Talk	SEL-Self-awareness	SEL-Relationship skills
Italy	Average	1.3	1.6	1.1	0.5	0.7
Lithuania	Average	0.8	0.7	0.8	0.5	0.2
UK	Average	0.6	-0.8	2.2	-0.8	-1.5
RO	Average	1.7	1.8	2.3	1.8	1.9
Project	Average	1.39	1.4	2	1.2	1.2
Discipline	Average	DL	1.59	SEL	1.2	

Figure 11: Changes in competency rating on the student tracking questionnaires

The focus interviews reveal a slightly different picture, however. The students seemed to feel they had made more progress in SEL than DL. All students were able to articulate what had been learned for both DL and SEL, but all showed better understanding of SEL (see Figure 12). The respective ages of the students do not seem to correlate with articulation: U2 (11 or 12) scored close to R5 (17 or 18). The distinct nature of SEL skills as opposed to the more integrated nature of DL skills in subject content may be at play here.

School	Student Age	Average interview answer score (for comparability)	
		Disciplinary Literacy	Social and Emotional Learning
R1	Unknown	1.9	2.1
R2	Unknown	1.3	2.8
R3	14 or 15	0.6	0.7

R4	13 or 14	0.6	0.7
R5	17 or 18	1.0	2.0
U1	11 or 12	0.3	0.8
U2	11 or 12	1.1	1.8

Figure 12: Average scores for interview answers in Disciplinary Literacy and Social Emotional Learning

Students did, however, express a degree of confidence in terms of their ‘ability to read and understand texts’, which in some cases is often linked simply to the fact that they are simply reading more widely (‘I have read a lot more books this year than last year’ - Lithuanian Student). Analysis of source material was routinely highlighted as a strength, and it is also clear that learners responded well to GROWE’s recommendation that authentic texts are drawn upon in the classroom. In this regard, students commented on how sources as diverse as dictionaries, atlases, videos etc, offered a greater balance in their learning and present more opportunities from a DL perspective, than would typically be available from a teacher’s sole use of ‘textbooks’. It is interesting to note that one student felt that the DL approaches had facilitated greater cognitive engagement. She felt her brain was ‘actively involved in the process [of learning]’ and that she was able to ‘feel it working in order to retain the information. And the information sticks, for a very long time. Of course, not every detail, but the main idea is retained and from there I am able to develop it further’ (Romanian student).

2.3.2 Rates of progress across the strands of DL and SEL

Based on the tracking questionnaires, the greatest progress was seen in Collaborative Talk averaging at 2.0 increase (see Figure 13). This is probably a consequence of the participating teachers spending more time explicitly focussing on strategies and blending these strategies with opportunities to apply them for Collaborative Talk as compared to the other strands (see Figure 8). As previously identified, the participating teachers have given a strong priority to collaborative tasks during the project and a number of students have clearly responded to this positively.

Reading Comprehension and Writing for Learning showed a very similar rate of improvement (Figure 13). The improvement to Reading Comprehension can partly be explained by GROWE’s focus on the use of authentic texts which, as noted above, appears to be helping students interpret and analyse these more effectively. Where students were more confident in terms of writing, they often responded to scaffolded resources (e.g. ‘spelling’ and ‘theory cards’) deployed effectively by teachers. Considering how to scaffold and support disciplinary skills in writing would be a useful recommendation for the project, moving forward.

Social and emotional learning competences were rated slightly below all the disciplinary literacy capacities, but there was no difference between the strands themselves at an average increase of 1.2 for both Self-Awareness and Relationship Skills. This is puzzling. Firstly, the participating teachers rated themselves at the end of the project as more likely overall to spend teaching time on Relationship Skills as opposed to Self-Awareness, 100% of the teachers stated that they were ‘Likely’ or ‘Very Likely’ to focus on Relationship Skills, compared to 94.3% for Self-Awareness (see Figure 6) and the data further indicates that 75% of the teachers were ‘very likely’ to spend time on Relationship Skills as opposed to only 51.4% for Self-Awareness. In addition, 88.6% of the teachers considered that they offered students a blend of specific strategies and opportunities to practice them for Relationship Skills at the end of the project, whilst only 65.7% of teachers felt they did this for Self-Awareness (see Figure 8). Relationship Skills has received more teaching time together with a more effective pedagogy. It is curious that this has not led to a greater progress.

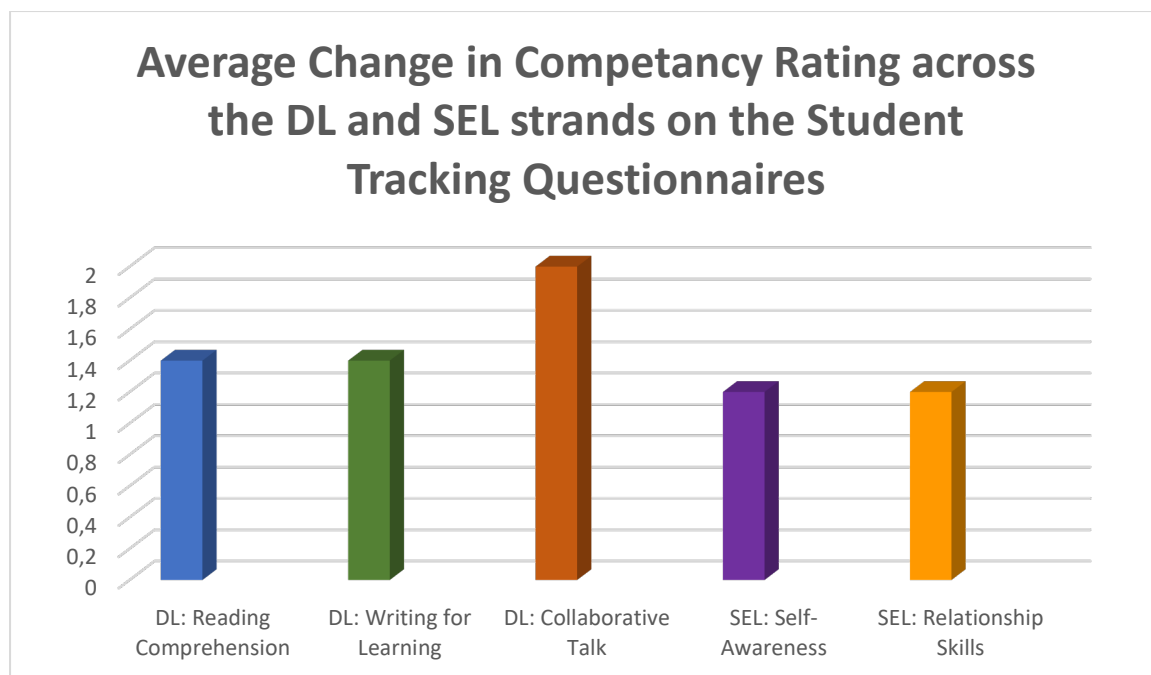


Figure 13: Changes in competency rating across the DL and SEL strands on the student tracking questionnaires

Important to note is how different countries rated students. The UK was lower across the board (see Figure 14). This may be because they were focused on younger students (see Figure 12) who would be expected to be less developed in all the competences.

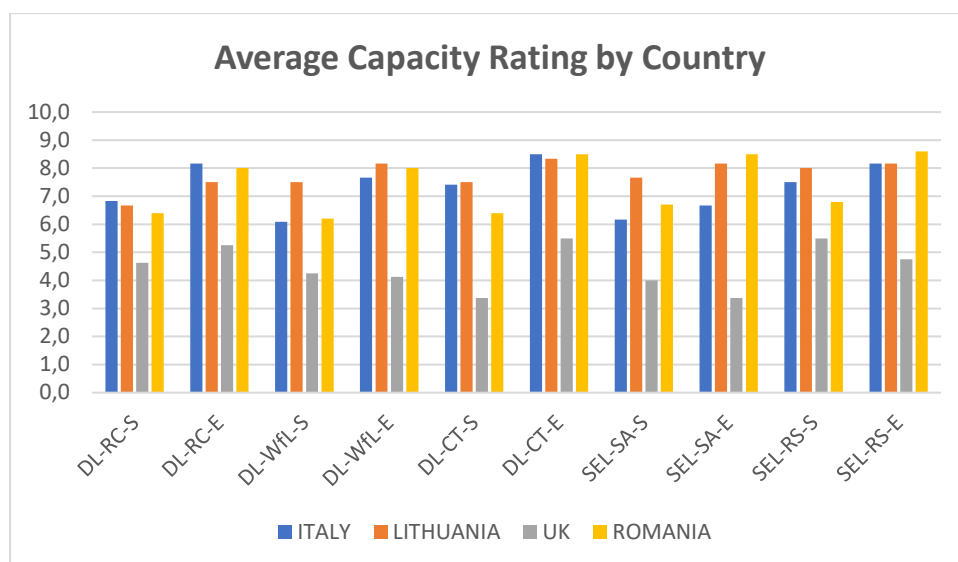


Figure 14: Average competency rating on the student tracking questionnaires by country

Based on the focus interviews, DL strands were understood partially by students, but many found it difficult to articulate from the project what they had learned from the authentic texts and why. Students from R1 articulated themselves very well and clearly had engaged with the tasks and had become confident with terminology describing techniques to analyse text (see Figure 15). Challenge and Cooperation were routinely answered honestly, if not always positively. Whilst many students

reported recognition of the need to persevere to succeed, many others reported avoidance of difficult tasks. Furthermore, although some students recognised the advantages working in collaborative contexts offers, with one stating ‘[when working in teams] we developed ideas I would have never had without them’ (Romanian student) and another commenting that ‘we can look at the same work from different perspectives and get a broader view’ (Lithuanian student), many others did not value or enjoy group tasks as they felt other students slowed them down, would not do enough work or felt that some of their peers did not work well yet still got credit in group situations. A number focused on the social side of team work (working with friends) without critically analysing this. However, there was some evidence that students developed the key skills of empathy, noted by the teachers as central to effective collaboration, captured by one student observing ‘I learned to be tolerant and I learned that I can relate to my classmate’s opinions even when they are expressed differently than my own. I learned that I can always find something in common, even something small’ (Romanian student). Giving both students and teachers the ability to more effectively manage challenge and group work scenarios to ensure all students are contributing and learning (possibly, by drawing on strategies with their roots in action learning or project-based learning) will be an important next step for ensuring GROWE’s wider efficacy and impact on all learners.

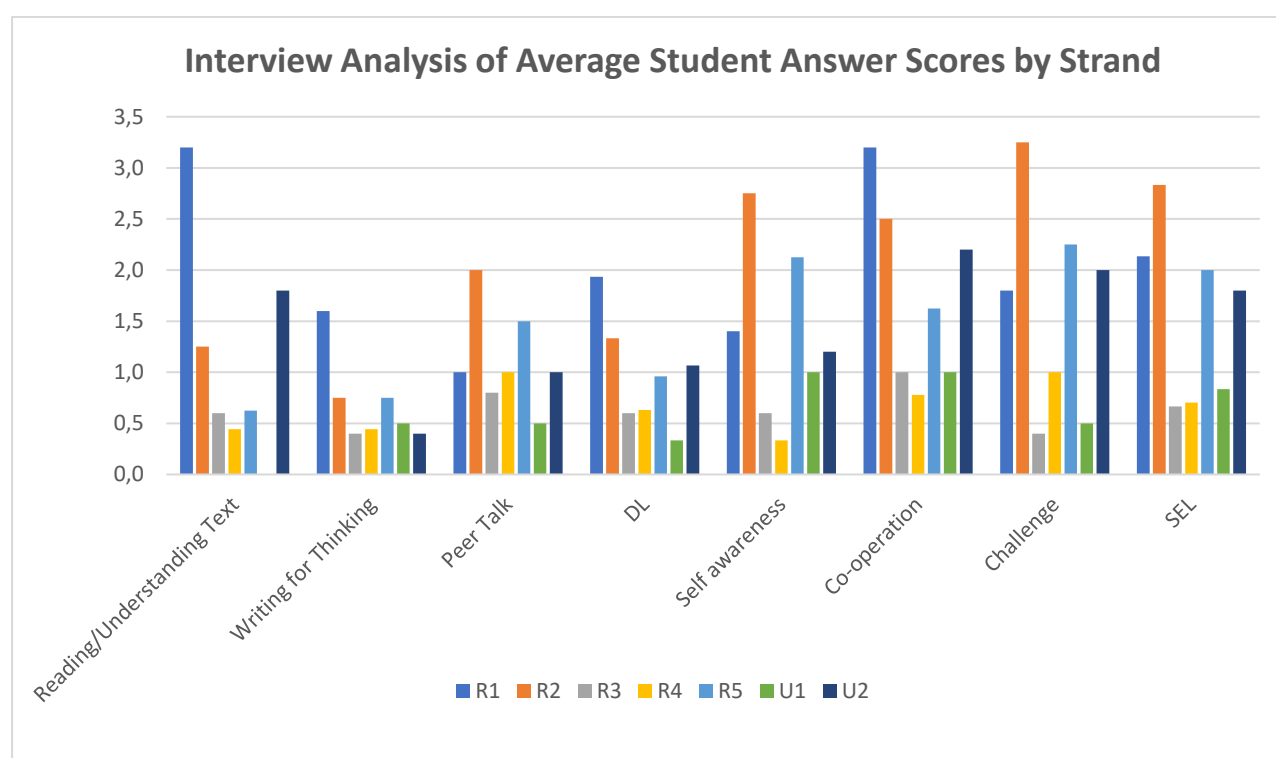


Figure 15: Graph of average scores for interview answers in DL and SEL

2.3.3 Rates of progress across the ability range

To be able to determine whether the GROWE model has had a differing impact on students dependent on their academic abilities, data was used only from the questionnaires. As the students participating in the focus interviews were not linked to their questionnaires, other than in one group, it was not possible to link their answers to an academic profile and therefore not possible to analyse respective progress across the ability range.

Based on data drawn from the tracking questionnaires, low ability students made the greatest progress in the project of 2.4 on average and high ability students showed the lowest progress (see Figure 16). This suggests that high ability students are able to make progress when teaching of DL and SEL is only implicit and explicit teaching has less impact, but low ability students are not, and consequently, make the biggest gains when teaching becomes explicit. This is an important finding and endorses the project's aim to target support on disadvantaged students.

	Ability	Average change in competency rating on the student tracking questionnaire					
		DL-Reading Comprehension	DL-Writing for Learning	DL-Collaborative Talk	SEL-Self-awareness	SEL-Relationship skills	Country/Ability Average
	High	0.5	0.6	0.9	0.1	0.4	
	Medium	1.5	1.3	2.1	1.2	1.0	
	Low	2.4	2.3	3.0	2.2	2.2	
Overall	High	0.5	Medium	1.4	Low	2.4	

Figure 16: Average change in competency rating on the student tracking questionnaires by ability

2.3.4 Blend between DL and SEL

Qualitatively, far more students could describe techniques rather than articulate metacognition. However, in one interview, a student commented on the GROWE approach in the following manner: 'I learned that I should listen to the opinions of others to write a text from multiple points of view. If we think about it, there are many people on the planet and not all of them share the same opinions' (Romanian student). This is a good example of a student reflecting adroitly on how the DL skills they are developing in relation to understanding different perspectives on a text correspond to a broader SEL capacity for gauging subjectivity. Looking at the key GROWE terms and skills, the project has been broadly successful in creating a blend of DL and SEL (Figure 17).

	Qualitative analysis of answers
Metacognition	A few instances of students showing that a technique linked to memorability
Reflection	Every student could do this to some extent
Critical thinking	Only a few students thought critically. A number have repeated the answers from other students, suggesting that they may not have completely understood the concepts.
Co-operative learning	Every student had participated in this
Social Teaching Practice	Could not be qualified by questionnaire
Dialogue	Students showed collaborative skills during the interviews- some encouraged others to participate, some built on each other's answers to create a more detailed response
Deep Learning	Could not be qualified by questionnaire
Analysis of Authentic Texts	This was especially appreciated when the text used was mixed media e.g. video/pictures

Figure 17: Qualitative analysis of the key terms and skills informing the GROWE Model (development of model from Butler and Screech 2021)

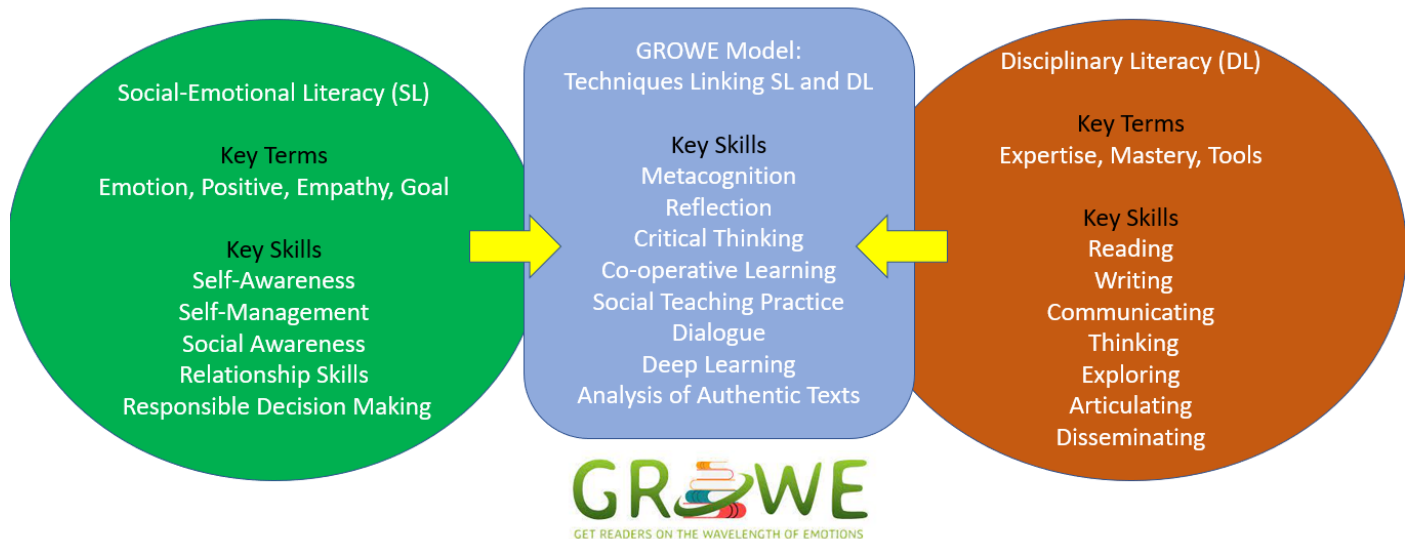


Figure 18: Key terms and skills informing the GROWE Model (development of model from Butler and Screech 2021)

3. Conclusion

The data sets collected, monitoring and evaluating the impact of the GROWE training on the participating trainers, teachers and students, are encouraging. The trainers have experienced a notable uplift to their professional development. Delivering the GROWE training has enabled them to specifically develop their capacities to understand and subsequently nurture the GROWE teacher competencies in their trainees, whilst developing broader skills, especially around sustaining interactivity in a variety of training contexts. Their vital feedback has further strengthened the GTCC, with a ‘GROWE lite’ training course proposed. The GROWE training has deepened the participating teachers’ understanding of the role DL and SEL play in students’ learning and has led to a marked shift in their pedagogy and an increase in their confidence to meet their students’ DL and SEL needs. The use of authentic texts has been welcomed as a platform from which to address these needs. The competences the training course sets out to build have successfully equipped the teachers in employing specific strategies and approaches to support DL and SEL irrespective of discipline. The teachers are better able to plan for, deliver explicit strategies to support, and assess their students’ DL and SEL skills. This has led to the students’ making progress both within DL and SEL. Slightly more progress and been made within DL than SEL, and across the strands of DL and SEL, Collaborative Talk saw the biggest increase of all. Students across the ability range have benefitted from the GROWE model and those from the lower end have benefitted the most.

Recommendations:

- Ensure the barriers to a consistent teaching focus on DL and SEL are minimised.
- Ensure the blend between DL and SEL is embedded as thoroughly as possible in planning and teaching practice and teachers are not tempted to tackle the concepts as separate entities.

- Ensure that opportunities to write for learning are as embedded and scaffolded as explicitly as reading activities, to enable students to make the best possible progress in this aspect of DL.
- Ensure a strong focus on the teaching and learning strategies required for effective collaborative working so students can consistently draw the maximum benefits.
- Ensure the GROWE training focusses on formative assessment and how it applies to GROWE.

Lines for Future Enquiry:

- Consider how the GROWE approach can align more effectively with further key competencies, e.g. responsible decision making.
- Consider how some children's bi- or tri-lingualism may complicate aspects of the GROWE approach and consider ways this issue can be mitigated.