

Interrogating a collaborative instructional approach to academic literacy: the missing link in supporting students' language learning

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Abstract

In Covid-19's 'new normal' academics have been urged to tear down subject silos and approach teaching collaboratively with renewed interest and increased urgency. An example of this can be found in curriculum-integrated academic literacy instruction which is based on the collaboration between language and content instructors. Case studies frequently report barriers to engaging content instructors in supporting students' language learning. However, the internal conflicts of language instructors are under-represented: little is known about their subjective experiences and emotions as they go about negotiating and accommodating a collaborative instructional approach. This paper undertakes a narrative inquiry into three language instructors' stories of teaching discipline-specific academic literacy. In bringing to the fore their reflexive voices on authority, agency and feelings of student resistance, it explores themes around identity and collaboration and underlines a critical missing link that mediates faculty collaboration and student learning. Humanising faculty development and venturing into scholarly enquiry are then proposed as potential ways to empower language instructors to manage the emotional complexities in their collaborative engagements.

Keywords: academic literacy; curriculum integration; faculty collaboration; language learning; narrative inquiry.

Introduction

Despite a wealth of research attesting to the promise that a collaborative instructional approach to academic literacy holds for advancing students' learning and success (e.g., Jacobs, 2013; Zappa-Hollman, 2018), partnership models continue to be a topic of recent interest in the field of learning development (Cairns, Hervey and Johnson, 2018). One reason for continued interest concerns the 'significant practical challenges associated with the partnership models' (Cairns, Hervey and Johnson, 2018, p.17), a notable challenge being 'barriers to staff and student engagement with the integrated approach' (p.17). Following a relatively long history of close to four decades of published research on a content-language instructional partnership model, the model has continued to receive interest in the United Kingdom and Singapore (e.g., Murray and Nallaya, 2016; Jaidev and Chan, 2018; Wingate, 2018; Wu, Lee and Chan, 2018). Continued interest in deepening an understanding of the barriers to faculty collaboration to optimise student learning is further justified as universities around the world are urged to tear down subject silos as they move forward into a post-Covid-19 world and to equip students with the competency to solve complex real-world problems that defy single-discipline solutions (Tan, 2020).

The partnership model that is the focus of this paper relates to the collaboration between language instructors (e.g., English for Academic Purposes or EAP professionals) and content instructors (e.g., disciplinary subject specialists). According to Wingate (2018), a collaborative instructional approach to academic literacy involves a partnership between language and content instructors to help students 'learn the genres and associated literacy conventions of their disciplines' (p.353). Such an approach is important because of its transformative potential: it is believed that the integration of academic literacy support into study programmes has 'the potential to lead to changes in instructional policies and practices that in turn will lead to improvements in the student experience' (Wingate, 2019, p.4). A crucial premise for the transformative potential is the belief that if content instructors were supported by EAP staff who as English language experts are better able to articulate literacy requirements and demystify such tacit knowledge for students, then students could be provided with the greatest opportunity of success in their academic literacy development (Wingate, 2018).

Research on collaborative academic literacy instruction has identified three main degrees of collaboration between language and content instructors: namely, cooperation,

collaboration and team-teaching (Dudley-Evans, 2001). These degrees are mainly differentiated by the intimacy of both parties in the partnership. Cooperation often suggests some initial involvement of the content instructors, such as in curriculum planning; collaboration involves a more sustained cooperation between both content and language instructors in materials development; team-teaching extends the collaboration to the co-delivery of instruction. Various terms have also been used to depict different methods of collaboration, such as discipline-specific and embedded literacies, but they may not be consistently used across the literature as authors often use these terms while leaving unclear 'what contributions the EAP/learning specialists and the subject lecturers make in the collaboration. . . [and] to what extent literacy instruction was embedded in the curriculum' (Wingate, 2018, p.354). Regardless, critical to the collaborative model is the relationship between both parties prior to developing the instructional materials and the recognition of the expertise of both.

Recent studies have identified the benefits and challenges of collaborative academic literacy instruction. Although increased student interest and motivation in academic literacy learning is often reported as a key benefit (e.g., Zhang et al., 2017), studies have cited the lack of reciprocal collaboration from content instructors, and their deficit knowledge and appreciation of language in relation to disciplinary content as frequent barriers to staff engagement (Wingate, Andon and Cogo, 2011; Ng et al., 2014; Murray and Nallaya, 2016; Jaidev and Chan, 2018). What appears to be under-represented is the perspective of the language instructors who taught the programmes.

We argue that the language instructors' perspective is a significant omission that needs to be addressed in the interest of advancing a more holistic understanding of the barriers to staff engagement. Such an understanding is important for student learning as teaching staff play a mediating role in interpreting, translating, adapting and communicating the collaborative instructional approach to students, and critically influence its impact (Tan, Heng and Ratnam-Lim, 2017). Our assumption here is that a process-oriented understanding of staff engagement in realising the collaborative approach is as important as an outcomes-based assessment of the promise and value of partnership models that most case studies in the literature have sought to undertake. This paper contributes to vocalising the silent voice by analysing the narratives of three language instructors (also the authors). Our research question is thus defined: what are the experiences and

attitudes of language instructors who taught a collaborative instructional approach to academic literacy?

Our study is anchored in a theory of symbolic interactionism (Blumer, 1969) which views instructional practice as 'an emergent phenomenon' (Ashwin, 2009, p.72) that develops from instructors' exchange and negotiation of experiences and attitudes. According to this view, instructors' actions and decisions arise from the meanings they ascribe to their experiences. These attitudinal meanings are shared, negotiated and reflected upon in a social and interpretive process that gives rise to action. It is expected that our insights into language instructors' experiences and their interpretations (attitudes) will contribute to a more holistic appreciation of the barriers to staff engagement as well as a more nuanced understanding of the mediating forces that influence student learning and success under a collaborative instructional approach to academic literacy.

Methodology: narrative inquiry

The methodology employed in this qualitative, interpretive study was narrative inquiry. This was considered the most appropriate methodology because narrative data are experientially-oriented and always interpretive at every stage (Phillion and He, 2007; Kim, 2016). They reveal the attitude of the narrator and the meanings they ascribe to themselves, their surroundings, their lives and lived experiences and those of others (Alvermann, 2000). They also have the potential to reveal a wealth of insight into and nuanced understandings of the complexity of literacy learning and teaching in context (Phillion and He, 2007). Narrative inquiry has not been applied extensively to research on collaborative literacy instruction as there seems to have been a greater interest in capturing the more objective outcomes of curriculum-integrated programmes, rather than the subjective experiences of stakeholders. By applying narrative inquiry to understand the subjective experiences of one such group – language instructors – we hope to shed new light in this area of research and provide insight into the barriers to staff engagement as initially discussed by Cairns, Hervey and Johnson (2018).

The narrators are the authors of this paper. We are language instructors who support the English language and academic literacy needs of undergraduate students in a large and comprehensive university in Singapore. Our department offers a range of courses on

academic and professional communication to serve the needs of both undergraduate and postgraduate students. Although the department has had a relatively long history of almost 43 years, a collaborative instructional approach to academic literacy has only begun to be undertaken in some courses recently, beginning from 2013. The department relies on about 46 full-time and 79 part-time language instructors to deliver its courses. It does not currently employ graduate teaching assistants. Deployment of language instructors to courses is generally rotational. Team-teaching, where content and language instructors co-teach in the same classroom, is not the norm at the time of writing this paper.

Both Kum Khuan Tang (KK) and Gek Ling Lee (GL) teach on a core module on critical thinking and writing for undergraduates from the College of Design and Engineering. The module is led by KK who collaboratively developed it with a partner department from the college – the Institute for Engineering Leadership. The degree of partnership may be considered as collaboration, following Dudley-Evans' (2001) distinctions, and involves the co-authoring of instructional and assessment materials. Content instructors from the partner department provided the case studies to be discussed and written about in the module. They also provided the theoretical framework and concepts to be used in case study analysis.

Derek Wong teaches on a core module on exploring science communication for undergraduates from the Faculty of Science. The module is developed in partnership with content instructors whose involvement was confined to liaisons regarding information on course content – they provided the readings to be discussed with students. However, instructional and assessment materials in this course are solely the work of the language instructors. The degree of collaboration here is therefore less intimate than in GL's course, and may be considered cooperative (Dudley-Evans, 2001). KK was involved in materials development in the first three iterations of this course when he was previously deployed to this course as one of its language instructors.

To elicit the experiences of language instructors who taught a collaborative instructional approach, we collected narratives on critical moments in our practice. The collection process began with Tang sending an invitation to Wong and Lee to participate in this research. The invitation set out a brief research context, a broad research aim, a tentative research timeline, and a beginning reading list which included Wingate (2018) and

Halquist and Musanti (2010). It also contained a prompt inviting authors to recall and recount a critical incident in their teaching of a collaborative instructional approach and to consider why and how it was critical. Suggestions about length and style were also loosely made. Authors wrote up their narratives independently over a month, after which they exchanged and read the narratives and were free to probe each other for clarification or elaboration. The narratives produced totalled 3,166 words.

Analysis

The narratives were analysed in two main steps: first, to uncover salient *experiences* that constituted the narrators' accounts of critical incidents; and second, to discern the *attitudinal meanings* or interpretations that they ascribe to their experiences. The analysis was undertaken by the first author and subsequently reviewed and validated by the second and third authors. Critical incident analysis was first applied to gain insight into our narrated experiences and to facilitate interpretation in our data (Halquist and Musanti, 2010). This involved identifying any one or more of the following: an everyday event that stood out, vivid happenings that were considered significant or memorable, a problematic situation that presented itself as a unique case and promoted reflection, or highly charged moments and episodes that had enormous consequences for personal change and development. We also looked for interpretive comments about what made the incident critical and how it affected the narrator.

Attitudinal meanings were then extracted from narrative data using the attitude sub-system of Martin and White's (2005) appraisal theory as our analytical framework. Attitude is a linguistic resource that enables writers to express their interpretations of people, events, and other phenomena using words of judgement, appreciation, or affect. The following examples are drawn from the data:

- 'Being regarded as a con artist, a disciplinary outsider and intruder, an accomplice in a huge timewasting conspiracy, and a jobs program beneficiary?' (Judgement).
- 'The mathematicians' stories told in the chapter could be rather difficult to relate for people who are not passionate about mathematics'. (Appreciation).

- 'I had to comprehend each model or lens, then to see how it fitted in. . . . All this I had to learn by discovery'. (Affect).

Martin and White's (2005) attitude sub-system provided the conceptual criteria for our further analysis and interpretation of experiences, helping us to avoid the danger of a 'single story' and ensure that our analysis remained data-driven. The attitudinal meanings thus extracted were subsequently compared to discern common themes that represented language instructors' interpretations of their collaborative instructional experiences.

Findings

This study set out to answer the research question: what are the experiences and attitudes of language instructors who taught a collaborative instructional approach to academic literacy? In the ensuing sections, we present what we found from our analysis of critical incidents regarding the narrators' salient *experiences*. We then report the dominant *attitudes* that emerged from our further analysis of the interpretive (attitudinal) meanings that narrators ascribed to their experiences.

Experiences

KK's critical moment in leading and teaching a collaboratively developed course on critical thinking and writing for undergraduate engineers came when he discovered, to his surprise, that the re-contextualised course did not find resonance with many students and tutors – they had found the skills unhelpful, uninteresting, and unfamiliar. In his view, they regarded the disciplinary-specific approach as less meaningful than a general 'study skills' one, and even thought it contrived and a waste of time. Some challenged the qualification and credibility of language instructors to teach and assess writing on technical subject matter. The critical moment was of significance to him because it made him question if the time and effort invested into the collaborative endeavour, together with whatever purported benefits that came with it, was worth the physical and emotional labour, and whether the course could have been better if left alone, without the collaborative reform.

GL recalled her critical moment as her first time teaching on KK's course. Even though she had come to this course armed with three decades of experience as a university educator and seven years leading and teaching similar courses, she experienced a steep learning curve as she had to learn the new course's disciplinary frameworks, often succeeding at being only one or a few steps ahead of her students. She also had to make sense of how those frameworks related to the overall course structure and learning outcomes, the engineering discipline and profession, and to language teaching and learning. While she gained some pleasure from that discovery process, she also noted initial frustrations when grappling with the disciplinary lenses, content and the discipline.

Derek recounted the critical moment of a routine lesson in science communication that discussed a book chapter on mathematicians' historical fascination with the Riemann Hypothesis, an important and unsolved problem in the field. However, the discussion was, to his surprise, met with disinterested silence, quite unlike the active discussions that preceded that chapter. Through his survey research and reflection, he gathered that the mathematics chapter had not been as engaging because there were very few mathematics majors in his class. Moreover, prior knowledge on the distribution of prime numbers was needed to appreciate it, and perhaps this was too esoteric. This moment of surprise encouraged him to enquire, experiment, and adapt to find the strategies appropriate for bringing out his teaching points with regard to genre awareness for his students. However, his agency was limited by a feeling that language instructors had to use the book chapters that were handed down to them because they were decided by the content instructors. Adaptation efforts were also limited by the fact that he was not privy to the content instructors' rationale for their prescriptions. Furthermore, as both he and the module convenor were latecomers to the course, they were not involved in the cooperative liaisons that took place in the early stages of planning and designing the module.

Attitudes

Undermined confidence or authority

GL felt insecure when she had to learn and discover disciplinary content and frameworks that were adopted in her course as she went about teaching them to her students: 'I was only ever one or at most three steps ahead of the students. . . in mastering the course content'.

KK felt that his qualification and credibility as a faculty member of his department (CELC) of language instructors to teach and assess the content and frameworks was challenged by students who much preferred that such subject matter be left to their content instructors:

Students also challenged the authority of CELC teachers to teach or assess their writing through disciplinary content. One remarked that their other engineering modules shared similar traits and gave more technical context into critical thinking and every other learning objective of this module. Another described the module as 'a complete waste of students' time. . . . CELC people have no clue when it comes to engineering and so why should they be grading assignment 2?'

Agency: threat or opportunity?

Derek felt his agency as a language instructor to adapt disciplinary content to the needs and interests of his students to be limited in part by his lack of knowledge of what the content instructors had in mind for content selection:

The original intent for choosing these book chapters might not have been known. . . . but since we may not be intuitively familiar with the nature of some of the materials, discovering the way to understand students' needs with regard to the materials could also be harder.

He also felt his agency to be limited by a sense of obligation to accept the content instructors' selections and to use them in his teaching. Similar feelings were shared by GL who felt obliged to learn about the content and discipline, and appreciate their relevance and significance:

The book chapters are handed down to us by the collaborating faculty. As a part of the collaboration, we have to use them. . . . We felt we had to use the materials given to us because it was decided by subject experts. (Derek).

I had to comprehend each model or lens, then to see how it fitted in with the course by itself and also together with the overall course structure and learning outcomes. All the while, also picking up an appreciation of the engineering profession, insight into the discipline and understanding of how a language teacher could contribute to engineering education. . . . All this I had to learn by discovery. (GL).

However, Derek also felt the discipline-specific nature of the course afforded autonomy to his teaching in both research and practice:

Although the above depicts difficulties in teaching, I generally find teaching this course a rewarding experience. Despite the material's limitation as I see it, the mode of collaboration has allowed me to enquire, experiment, and adapt so as to find the strategies appropriate for bringing out my teaching points with regards to genre awareness for my students. But I suppose this could go both ways. . . . I could not help but wonder if flexibility in delivery is necessary if not vital to address the diverse and varying thoughts and interaction that arise in the classroom.

Resistance from students

KK felt resistance from his students towards the way content and language have been integrated in his course:

To my (and our) surprise, the re-contextualization of critical thinking from the 'general' to the 'specific' did not find resonance with many students. As one remarked, curtly and tersely, 'not interesting, not useful, not critical at all'. Another called ours 'a poorly disguised English language module'. Yet another recommended that the module be renamed 'to sound less deceptive'. It is not a good feeling for a well-meaning educator to be reduced overnight to a con artist. These were quite grave allegations.

Derek felt passive resistance from his students who did not take well to a content selection in his course:

The mathematics chapter has not been particularly popular in my classes. . . . Some students revealed that they did not like the mathematics book chapter in the survey, but they kept their opinions to themselves in the lesson. . . . The reason behind this could be [that] having to say 'no' in the classroom on a topic that is new probably requires authority and agency that students have yet to possess.

Discussion

Our study sought to voice the perspective of language instructors who teach curriculum-integrated academic literacy by eliciting their experiences and interpretations of those experiences. What we have found expands our knowledge about the 'barriers to staff and student engagement with the integrated approach' (Cairns, Hervey and Johnson, 2018, p.17) in two significant ways. First, that the challenges language instructors face do not just come from content instructors' lack of appreciation for the importance of language in disciplinary learning, or their lack of competence in articulating literacy requirements, but they also come from within, namely the crisis of identity and the emotional labour that come from having to teach unfamiliar content and confront resistance from students. Such internal struggles, while commonly dismissed by academic leaders as an 'individual' matter, need to be addressed as they constitute teachers' implicit theories about a collaborative instructional approach and implicate students' academic performance (Hargreaves, 2005; Deng, 2021). Second, although this study did not enquire directly into barriers to student engagement, it is possible to glimpse in KK and Derek's interpreted experiences what those barriers may be, namely preferring a 'bolt-on' model over 'built-in' and partnership models (Cairns, Hervey and Johnson, 2018) of literacy instruction and reservations about content instructors' selections for literacy activities. Together, these barriers attest to the significant practical challenges in the lived reality of collaborative approaches that are hard to refute despite prolific research suggesting them to be ultimately the best form of pedagogy for students. Probing these barriers and foregrounding their emotional dimension does not suggest that we are undermining student learning because, according to Goh (2014), teachers' commitment, confidence and competence are contingent on their need for authenticity, independence and finding meaning being satisfied, and in considering the affective factors that influence their performance, they are taking the first steps in empowering themselves to manage the complexities in their work.

In presenting a critical view of collaborative approaches as experienced by language instructors in this study, we are not suggesting that they should settle for something less or stop striving for closer communication with content instructors through dialogue and policy. But neither are we suggesting Dudley-Evans' (2001) team-teaching to be the one and only destination for everyone. As Cairns, Hervey and Johnson (2018) concede, partnership models critically require the courage to take the long view. However, in many institutions, there are just not enough resources for language instructors to have time to become familiar with possibly a lot of subjects and win their collaborators' and students' recognition of their expertise. What our research has suggested is that less intimate models such as cooperation need not be a lesser approach to advancing students' learning: Derek noted that the integrated curriculum he taught provided his students with much input in rhetorical structures and strategies and enabled them to experience the complex considerations behind making and adapting genre decisions. He also found teaching the course a personally rewarding experience as it encouraged him to enquire, experiment, and adapt his teaching to students' needs. Such genre knowledge and practices, and differentiated learning, would appear to have more profound benefits than increased motivation and deepened engagement with content arising from contextualised learning (Jaidev and Chan, 2018) as observed in higher degrees of collaboration. Further studies may be useful for illuminating the differences in effects between different degrees of collaboration.

One suggestion that might allay language instructors' internal struggles is to provide 'some level of socialisation. . . into the partner discipline' (Wingate, 2018, p.359). This would hopefully help language instructors gain familiarity and confidence with the disciplinary content with which they would be engaging their students. However, faculty training can only address language instructors' 'deficit' content knowledge in a symptomatic way. It can neither address their feelings of obligation in relation to the prescribed content nor impart to them, in GL's words, 'an appreciation of the engineering profession, insight into the discipline and understanding of how a language instructor could contribute to engineering education'. According to Rachayon (2020), it may be possible for language instructors to be successful dwellers in an unfamiliar content space, but they will need to possess a positive attitude towards disciplinary content, be interested in the subject and be willing to learn more. This suggests that a more asset-based approach to selecting staff that

considers language instructors' enthusiasm and commitment to a collaborative instructional approach may be a more sustainable way forward than faculty training alone.

Such an approach would go beyond socialising language instructors into less familiar content spaces to humanising their development, reinforcing their agency and sense of dignity while alleviating their loss of meaning and personal journey (Devis-Rozental, 2018). Apart from humanising faculty development, another way to manage language instructors' emotional complexities may be to go beyond collaborative instruction to 'a collaborative scholarship approach. . . [that is] led by the EAP practitioner' (Godfrey and Whong, 2020, p.23). It has been argued that venturing into scholarly enquiry is the most powerful way of gaining the content instructors' perspective while allowing language instructors to take the lead from a privileged position in developing the metalanguage for describing textual and linguistic features in student writing.

Conclusion

The experiences of English language instructors who taught a collaborative instructional approach to academic literacy suggest that feelings of undermined confidence or authority, constrained agency, resistance from students, and obligation constitute barriers to staff engagement. It is important to acknowledge their subjectivities rather than dismiss them as an individual matter as these attitudes render a collaborative model precarious and fragile and adversely affect student learning. While we acknowledge that intimate collaboration between language and content instructors to develop students' academic literacies is a noble aspiration, we do not think it has to be the same destination for all instructors and institutions: first, as our study has shown, less collaborative approaches did not suggest opportunities for student learning to have been severely short-changed; second, we believe that the destination is as important as the journey taken to get there, and considerations about the ends need to be balanced against the means just as the gains need to be weighed against the costs. It would be quite unfortunate if the students learned but their teachers lost their sense of self-worth and identity. Our study also illustrates the value of enquiring into instructors' practice-based interpretations to render a more holistic appreciation of collaborative academic literacy instruction. To return to Wingate's (2019) point about the transformative potential of a collaborative instructional approach, we

therefore argue that considering instructors' attitudes is one way in which such potential may be harnessed.

References

- Alvermann, D. E. (2000) 'Narrative approaches', in Kamil, M. L., Mosenthal, P. B., Pearson, P. D. and Barr, R. (eds.) *Handbook of reading research: volume 3*. Mahwah, NJ: Erlbaum, pp.123-139.
- Ashwin, P. (2009) *Analysing teaching-learning interactions in higher education: accounting for structure and agency*. London: Continuum.
- Blumer, H. (1969) *Symbolic interactionism: perspective and method*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Cairns, J., Hervey, T. and Johnson, O. (2018) 'Neither "bolt-on" nor "built-in": benefits and challenges of developing an integrated skills curriculum through a partnership model', *Journal of Learning Development in Higher Education*, Issue 13, April, pp.1-22. <https://doi.org/10.47408/jldhe.v0i13.435>.
- Deng, S. (2021) 'Exploration of teacher agency in the implementation of the ESP language education policy in a Chinese university', *Theory and Practice in Language Studies*, 11(3), pp.302-307. <https://doi.org/10.17507/tpls.1103.10>.
- Devis-Rozental, C. (2018) *Developing socio-emotional intelligence in higher education scholars*. London: Palgrave.
- Dudley-Evans, T. (2001) 'Team-teaching in EAP: changes and adaptations in the Birmingham approach', in Flowerdew, J. and Peacock, M. (eds.) *Research perspectives on English for Academic Purposes*. Cambridge: Cambridge University Press, pp.225-238.
- Godfrey, J. and Whong, M. (2020) 'A collaborative scholarship model of EAP research and practice', in Whong, M. and Godfrey, J. (eds.) *What is good academic writing?*

Insights into discipline-specific student writing. London: Bloomsbury Academic, pp. 9-29.

Goh, C. C. (2014) 'Foreword', in Cheung, Y. L., Selim, B. S. and Park, K. (eds.) *Advances and current trends in language teacher identity research*. Abingdon: Routledge, pp. xii-xiv.

Halquist, D. and Musanti, S. I. (2010) 'Critical incidents and reflection: turning points that challenge the researcher and create opportunities for knowing', *International Journal of Qualitative Studies in Education*, 23(4), pp.449-461.
<https://doi.org/10.1080/09518398.2010.492811>.

Hargreaves A. (2005) 'The emotions of teaching and educational change', in Hargreaves, A. (ed.) *Extending educational change*. Dordrecht: Springer, pp.278-295.

Jacobs, C. (2013) 'Academic literacies and the question of knowledge', *Journal for Language Teaching*, 47(2), pp.127-140. <https://doi.org/10.4314/jlt.v47i2.7>.

Jaidev, R. and Chan, P. (2018) 'Embedding communication in the disciplines: a tale of two faculties', *Innovation in Language Learning and Teaching*, 12(3), pp.199-211.
<https://doi.org/10.1080/17501229.2016.1156685>.

Kim, J. (2016) *Understanding narrative inquiry: the crafting and analysis of stories as research*. Los Angeles: Sage.

Martin, J. R. and White, P. R. R. (2005) *The language of evaluation: appraisal in English*. Basingstoke: Palgrave Macmillan.

Murray, N. and Nallaya, S. (2016) 'Embedding academic literacies in university programme curricula: a case study', *Studies in Higher Education*, 41(7), pp.1296-1312. <https://doi.org/10.1080/03075079.2014.981150>.

Ng, K. L., Deng, X., Zhang, S., Chng, Y. Z. M., Chua, T. C., Koh, L. L., Sim, X. J., Aryadoust, V. and Chan, C. Y. E. (2014) 'Effectiveness of new science

communication course: a preliminary report', *Asian Journal of the Scholarship of Teaching and Learning*, 4(4), pp.196-205.

Phillion, J. and He, M. F. (2007) 'Narrative inquiry and ELT research', in Cummins, J. and Davison, C. (eds.) *International handbook of English language teaching*. Boston, MA: Springer, pp.1003-1016.

Rachayon, S. (2020) 'A language teacher in the ESP classroom: can we be a successful dweller in this strange and uncharted land?' *English Language Teaching*, 13(9), pp.119-124.

Tan, E. C. (2020) 'Universities need to tear down subject silos', *The Straits Times*, 10 September. Available at: <https://www.straitstimes.com/opinion/universities-need-to-tear-down-subject-silos> (Accessed: 12 May 2022).

Tan, K. H. K., Heng, M. A. and Ratnam-Lim, C. (eds.) (2017) *Curriculum leadership by middle leaders: theory, design and practice*. Abingdon: Routledge.

Wingate, U. (2018) 'Academic literacy across the curriculum: towards a collaborative instructional approach', *Language Teaching*, 51(3), pp.349-364.
<https://doi.org/10.1017/S0261444816000264>.

Wingate, U. (2019) 'Achieving transformation through collaboration: the role of academic literacies', *Journal of Learning Development in Higher Education*, Issue 15, November, pp.1-9. <https://doi.org/10.47408/jldhe.v0i15.566>.

Wingate, U., Andon, N. and Cogo, A. (2011) 'Embedding academic writing instruction into subject teaching: a case study', *Active Learning in Higher Education*, 12(1), pp.69-81. <https://doi.org/10.1177%2F1469787410387814>.

Wu, S. M., Lee, S. H. and Chan, E. C. Y. (2018) 'Faculty cooperation in teaching academic literacy using popular science texts: a case study', *Teaching and Learning Inquiry*, 6(2), pp.29-49. <https://doi.org/10.20343/teachlearningqu.6.2.4>.

Zappa-Hollman, S. (2018) 'Collaborations between language and content university instructors: factors and indicators of positive partnerships', *International Journal of Bilingual Education and Bilingualism*, 21(5), pp.591-606.
<https://doi.org/10.1080/13670050.2018.1491946>.

Zhang, S. Q., Chng, M., Ng, K. L., Wu, S. M. and Chan, E. C. Y. (2017) 'Enhancing the communicative competence of science undergraduates through the use of popular science: a perspective from the students', *Asian Journal of the Scholarship of Teaching and Learning*, 7(2), pp.30-57.

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