

Yearning for Learning: Feedback from forestry and arts students on interdisciplinary classes based on the Gaelic Tree Alphabet

Mandy Haggith (Mandy.Haggith.ic@uhi.ac.uk)

Abstract

This is a report on 2022 activity in the A-B-Craobh (A-B-Tree) project, funded through a scholarship from the UHI Learning and Teaching Academy. The project explores how the Gaelic tree alphabet can be used as a structure for learning about literature and forestry. This particular piece of research aimed to use the project's knowledge base to deepen understanding of students' interdisciplinary learning experience, particularly when combining solo-outdoor and together-online encounters. The methodology used was poetic inquiry. Six sets of students were involved in the study, from which four themes emerged: wonder, solitude, silence and interdisciplinarity. Each theme was analysed through a poem, which, coupled with some quantitative data, provides compelling evidence that we should do more to ensure our students are not restricted to disciplinary silos.

Introduction

A-B-Craobh (A-B-Tree) is a project that explores and blurs the boundary between arts and science through a focus on tree poetry. It began as a creative project in 2011, International Year of Forests, and for several years it involved walks and workshops in woods and gardens, encouraging people to be creative about trees and celebrating tree poetry. The project used the Gaelic tree alphabet, an ancient link between the letters of the Gaelic alphabet and native woodland species (Su, as an organisational principal for sequences of tree-creativity events. This early phase resulted in webpages for all the trees, a tree poetry anthology (Haggith 2013) and prize-winning poetry collection, *A-B-Tree*.

In 2018 I brought the project into UHI to begin looking more deeply into how the Gaelic tree alphabet could be used as a structure for learning about literature and forestry. My motivation is a firm belief in the value of interdisciplinary thinking (Aldrich 2014; Watkins & Tehrani 2020). For the next couple of years the project focused on how to facilitate classes of forestry students in which they learned about Gaelic, tree folklore and how to write poetry, and classes of literature and creative writing students in which they learned about trees. A subsequent year's research focused on what the students actually learn through these classes and whether they change their attitudes about trees. The project found that students' expressions of what trees mean to them are emotionally deeper and culturally broader by the end of a tree poetry session than at the start. (Haggith 2020a&b).

My research in 2020-21 was affected by the pandemic and instead of working with groups of students outside under trees, as I would normally do, I devised a scheme mixing solo, outdoor activities with coming together online. This seemed effective and opened up new possibilities for teaching geographically distributed student groups. So in 2022 I set about researching what students' experience was of this combination to try to better understand how outdoor and online learning can complement each other. I also wanted to find out what students think about interdisciplinary learning and whether there is an appetite for more of it.

Aims

The broad aim of the work was to use the A-B-Tree knowledge base to deepen understanding of the interdisciplinary learning experience. Specific aims were:

1. To evaluate facilitation methods developed during the COVID pandemic blending outdoor solo and online group activities to encourage interdisciplinary learning through creative responses to trees.

2. To use poetic inquiry (Richardson 2000; Prendergast, Leggo & Sameshima 2009; Leavy 2015) to better understand the student experience of interdisciplinary learning and why the creative-scientific blend seems so powerful.
3. To develop the community of practice in UHI exploring the forestry-creative arts edge-zone and 'the potential of boundary encounters to generate new insights' (Wenger-Trayner et al 2015).

Research Questions

The primary question for this project was: what do students learn by writing creatively about trees?

Subsidiary questions were:

- What are students' learning experiences when boundaries are blurred between different disciplines and types of knowledge (creative arts/forestry, experiential/propositional)?
- How can a combination of outdoor and online learning experiences facilitate interdisciplinary learning between literature and forestry?

Methodology

Poetic inquiry was the primary methodology used throughout the project. This is an arts-based, qualitative research methodology in which poetry is used in the search for insights into the research questions (Leavy 2015; Faulkner 2016; Vincent 2018). Poetic inquiry has many variations depending on which stage of the research process poetry is used. The A-B-Craobh project has used poetry throughout the project lifecycle: to stimulate participants to engage; offering students poetry as part of their learning process; gathering words and poems written by students as data or evidence; writing poetry using those words as an analytical method, seeking patterns and nuances; writing reflective poetry to ruminate on findings; and disseminating and sharing findings through finished poems (Haggith 2021).

In this part of the project two additional methods came into play. Firstly, as a result of the large volume of transcribed material from evaluation interviews and focus groups, a thematic analysis was performed using in vivo coding of transcripts, in the manner used in grounded theory, allowing participant language to drive the choice of codes (Charmaz 2014). Once key themes had emerged from this, I then switched to poetic analysis. Secondly, as I was using a Brightspace survey for post-session evaluation, this lent itself to some quantitative data gathering. I have used mixed methods before, combining quantitative and qualitative data analysis, but always by gathering quantitative data first and using qualitative analysis to dig more deeply and find explanations for patterns that have emerged quantitatively, however in this instance, I ran the two methods in parallel (Johnson & Ongwuebuze 2004), using one of the questions in the survey to triangulate with (and indeed corroborate) qualitative evidence on the theme of interdisciplinarity, as this was a key focus of the research. This enables my research findings to cover the opinions of a much bigger proportion of the students involved in the study than I could reach via the qualitative evaluation. The quantitative element thus adds breadth to the depth generated from the poetic inquiry.

This current episode in the A-B-Craobh project had five phases: planning, learning sessions, data gathering, analysis and reporting. It was conceived of as a single action-research cycle involving planning, taking actions in the form of classes, monitoring the results and then reflecting, however as the project ended up being spread across two semesters, the reality was more like two action research cycles, with some interaction with students and generation of data and analysis in semester two of academic year 21-22, followed by reflection over summer and a second action research cycle in semester one of academic year 22-23. Several issues needed careful assurance in order to get ethical approval: the need to gain informed consent from participants for making, storing and using records of their interactions, data protection, plus copyright

agreements for creative responses, especially poetry, for storage and publication. Ethical approval was granted by UHI on 16 March 2022.

1. *Planning.* Plans were made with lecturers in forestry, literature and creative writing for four educational and creative encounters with trees in the first semester and two in the second semester, contributing to existing curriculum and engaging six student groups: (1) first year BA Creative Writing, (2) third year BA Literature, (3) Advanced Certificate Forestry and (4) level 5 Social Science, (5) Community Link students doing their John Muir Trust award and (6) Rural Apprentices in the Scottish School of Forestry. Each encounter focused on one tree species and involved a combination of outdoor solo activity by students and at least one group session, all except for the rural apprentices online. Although this sixth group was unable to convene online, some useful data was still gathered from the session on the students' experience of the interdisciplinary content. Learning materials and activities were customised for each group and a student feedback survey was developed and posted in the relevant module on Brightspace along with their learning materials. Arrangements (and ethics permission) for recording encounters and evaluating student experiences were also made.
2. *Learning sessions.* Four encounters were carried out during early 2022 and two in autumn. Learning materials were made available to students, with relevant scientific information, Gaelic terminology and poems about tree species. Each involved students having a solo outdoor encounter with a tree followed by an online or outdoor group workshop stimulating them to make creative responses to the tree, giving them experience of sharing and giving and receiving feedback on their creative practice and of co-creating (McMahon 2019; McEwen and Statman 2000; McKimm 2017). Sessions with classes (1), (2), (3) and (5) were video recorded but it was not possible to record the Social Science students and Rural Apprentices as it was not possible to get consent from the whole class for audio or video recording, although most of the students were willing to share poems and feedback so useful data was nonetheless obtained. Six students, three from arts, three from sciences, consented to be interviewed about their learning experience.
3. *Evaluative data gathering.* The online survey was responded to by 35 students and the focus group session and two individual interviews were used to seek insights into student learning experiences during these encounters, i.e. what they learned and how they felt about the blend of creative and scientific content and about the solo-outdoor+together-online approach.
4. *Analysis.* The first step was to close read student poems, transcripts of sessions, online chat records, survey responses, focus group and interview transcripts, marking them up by highlighting interesting words and phrases and using these to identify themes. Analysis in previous years of the project had focused on what students said about trees, but the focus here was on the hybrid learning process. Once themes emerged, I used poetic inquiry to further analyse the texts and other creative responses, distilling the students' words down to form poems from the language that they used to express their learning and experiences of their outdoor solo and online activities. The poetic inquiry methods I used include meta-poetry (poetry made from poems), poetic transcription, 'poemish' writing and reflective poetry using my own words (Lahman et al 2010; Faulkner 2016; Lahman, Richard & Teman 2019; Haggith 2021).
5. *Reporting.* The project was written up, disseminated and discussed via four presentations: at the British Society for Literature and Science; at a conference on Interdisciplinary Learning; via an invited keynote presentation at the British Ecological Society and at the UHI Research conference. The second of these conference presentations led to a book chapter in a book about interdisciplinary teaching. A draft journal paper is in preparation – aiming for a high quality REF output in the *International Journal of Science Education*. The project is being highlighted through a blog on the UHI website and promoted as part of Gaelic Week in February 2023. I hope that ultimately the findings from this and earlier phases of the project can come together in book form in combination with the findings from previous phases of the A-B-Craobh project; a book proposal has already been the subject of discussions with Bloomsbury/MacMillan but as I am keen for it to be open access I am planning to submit a proposal to the Scottish Universities Press.

Findings and discussion

The findings of my research in 2022 are expressed in four poems on four themes that emerged strongly from thematic analysis of student poetry, evaluation surveys, focus group and interviews. The themes are: *wonder* – the wow-factor people feel with trees and the wonderings and thinking that ensues from this; *solitude* – the value of solo outdoor activity, specifically encounters with trees; *silence* – the value of quiet time together in groups; and *interdisciplinarity* – integration of knowledge from different fields.

Wonder

Throughout the years of the A-B-Craobh project people have demonstrated over and over again how strongly they feel about trees and how, if they are encouraged to write about what impresses them, they produce vivid expressions of sensory connection to trees. This is one side of wonder – the wow-factor, the pleasure at the encounter with an older or bigger, strong and stationary, or simply beautiful living being. Having established that connection through contact with a tree, the project's knowledge base of tidbits of information from wildly different fields (practical uses of wood, bark or leaves, folklore and magic spells, placenames linked to tree species or ecological nuggets, etc.) gets people thinking, engaging cognitively, and thus wonder develops into wondering and thereby to interesting discussion. The opportunity then to write a poem exploits poetry's strength in linking emotion, perception and cognition through condensed language, using sensory imagery for philosophical or abstract ideas, in short, combining feeling and thinking, integrating wonder and wondering. This year's project once again confirmed that this process happens and the students' expressed their wonder at trees in their poems. The following poem is a meta-poem made up of phrases from the poems written by both arts and science students, highlighting some of the wonder they expressed.

Tree Wonder

(With thanks to Michaela Fioretti, Imogen Davidson-Smith, Marcus O'Brian, Rachel Orchard, Dougald Allan, Victoria Potts, Rebecca Loebbert, Sarah Tungett, Alicen Geddes, Rebekah Mackinnon, Leah Bliss and other students who chose to remain anonymous)

they say pine trees bring gold
 soft blue haze
 strange circles below
 green between
a blanket bared for the growth race
 as the cycle of life goes round
 so many mysteries
 reach into the earth's core
hush of the woods
 contagious calm
 resonant
 resinous
willows and their witches
 in wonderland
 waiting to welcome
 the tempted traveller
on the edge, the cusp
 you shine dark emerald
 veins of green
 feeding life into the world

a connection of ground to sky
a meeting place
for the earthbound
and creatures who fly
older than our wars
you watched us make peace again
our lives are just a
glimpse, fade while you linger
Guardian, why do you keep a vow of silence?
I walk the land
holding fast the branches
sunset in my hand

Solitude

One of the new elements in this year's project was an evaluation of the pre-class instructions to students to spend time alone outdoors with a tree and then to bring something (words, an image, a leaf etc) from the tree into the online class. It was interesting to find out how they felt about that experience. I was shocked by several of the arts students to whom this was completely novel; some had never before stopped to pay attention to a tree and for these students in particular it was a powerful experience. The benefits of a solo encounter include side-stepping peer pressure or embarrassment or distraction that would or could arise in a group situation, and enabling unselfconscious sustained attention on the tree. This is expressed in the following poem made from words from the transcripts of evaluation interviews with six students, four in the arts, two in forestry. The sometimes stumbling nature of their speech ('I would feel like maybe kind of like sort of / eyes rolled at'), their natural repetitions ('ourselves... ourselves') and their self-deprecating ('hippy') comments, combine to create poetry with an authentic voice of its own.

Solo Tree Encounter

(words generated by students taking part in evaluations of interdisciplinary tree poetry classes during 2022, the first aspect of which was to have a solo encounter with a tree of their choice prior to the class)

Time for silence,
to think and be creative.

This gave me the opportunity
to just be, you know,
my hippy self.

Trees, I find them magical anyway
but actually having a hug with one,
it was different, great, brilliant.

When there's a group,
There's sometimes pressure, isn't there?
Who's watching and everything.

I think it was better that way, alone.

Less sort of embarrassing, you know,
because if we were in a group

I would feel like maybe kind of like sort of
eyes rolled at for being a bit of a hippy.

I liked the fact that we could do it
on our own
and come back and talk about it.

It was something we could just
go off and do ourselves
and have that intimate moment
with ourselves
and with nature.

Silence

The issue of silence emerged unexpectedly from analysis of transcripts of sessions with students to evaluate the classes. Several students enthused about how the classes included quiet time to think and jot down ideas and express how they feel, which for these students seemed to be a novelty. While it is well understood how important for learning it can be to be in company (sometimes, as n Garrison et al's theory of Community of Inquiry, called 'social presence' (2007)), this aspect of being together *quietly* seems worth noting: the students really value being in the presence of others, whether online or in person, but without speaking. My realisation of the value of this silent camaraderie as a vehicle for learning led to this very simple poetic reflection. It's also a reminder to myself of the value of just sitting, pondering.

Silence

Teachers,	how much time
do you allow students	to sit
to think	in silence?

Interdisciplinarity

The most striking finding of the research concerns student attitudes to interdisciplinary learning. A post-class survey was filled out by 35 students and although this is a very small sample and students who were less enthused are likely not to be as well represented in the sample, this does cover more than 70% of the 45 students involved and their views are striking. 95% of the science students want to have more arts and creativity in their course. 63% of the arts students want the chance to study some science. It would be interesting to learn more about whether this result generalises and if so, why science students want arts more than arts students want science. Do science students long to be treated as more than brains with hands? Are some arts students frightened of science?

I wrote the following piece of 'poemish' using some of the students' words on this topic - all the non-italicised words/phrases are from student spoken or written evaluations.

Interdisciplinarity

When poetry students study trees they say:
Mixing science with this creative sort of learning
is definitely really interesting.

I like the intermixing of both things
because the forest is very important in literature.
Look, how did trees and the forest make their way
into poems in the first place?

When forestry students write poems they say:

Literature and creativity stem
from human connections to trees.
I like combining forestry and the arts,
a holistic approach to learning.
It creates a nice environment for everyone
and the freedom to have a laugh,
more engaging than textbooks.
Positive thoughts, because interdisciplinary knowledge
is the best way to make informed decisions.
I enjoyed the creative side.
I enjoyed writing.
I wrote a poem!

A key phrase in this poem is 'interdisciplinary knowledge is the best way to make informed decisions'. This is an important insight. We need to prepare our students to be future leaders towards a sustainable future and to do this we should surely be doing more to meet what they say they need by way of, in their words, 'a holistic approach to learning'.

Conclusions

The three aims of this project have been achieved. A-B-Craobh has explored the benefits of teaching poetry and Gaelic woodland culture to forestry students and teaching literary students about trees. Students beautifully articulated through their poetry their wonder at and wonderings about trees, thus demonstrating that the interdisciplinary encounters that led to their poems were meaningful. The effectiveness of the solo-outdoors and together-online approach to facilitating learning is now better understood, particularly in the way that it provides students with the benefits of solitude and, unexpectedly, opportunities for being silent together. Evaluations of their sessions show that a large majority of students want more interdisciplinary learning because they believe, amongst other things, it would make them better decision makers. The core group of staff in Creative Arts and Forestry at UHI remains committed and enthusiastic about the cross-disciplinary teaching and through wider dissemination this year a broader group of UHI staff and people outside the University know about and are engaging with the project.

Through thematic analysis of student evaluations, four key themes have emerged, which have each been further analysed using various poetic inquiry techniques: meta-poetry about *wonder* made by distilling lines from students' poems; a reflective poem on *silence*; a poetic-transcription poem about *solitude* using verbatim accounts from interviews with students; and a piece of 'poemish' writing about interdisciplinarity using a blend of written and spoken student evaluations. Together these give a compelling sense of the value to students of interdisciplinary learning experiences. This is further backed up with some tantalising quantitative evidence that science students are eager for their learning to include some arts and arts students, though to a lesser extent, want some science. These suggestive findings merit further investigation and discussion of their implications for our curriculum.

Poetry, as a discipline requiring a simultaneous engagement of heart and mind, is an effective method for exploring such issues holistically, and for helping to heal the disconnect and polarisation between STEM and

other subject areas. Within the UHI landscape, the A-B-Craobh project has grown up and been cross-pollinated in the boundary between communities of practice in Forestry and the Creative Arts. Hopefully its fruits will find fertile ground in the edge-zones between other disciplines and as we divide UHI into two faculties of science and the rest we'll also nurture a thicket of opportunities across the boundary for students to enjoy at least some of their learning in the hedges between fields.

References

- Aldrich, J.H. (2014) *Interdisciplinarity*. Oxford: Oxford University Press.
- Charmaz, K. (2014) *Constructing Grounded Theory*. New York: SAGE.
- Faulkner, S.L. (2016) *Poetry as Method: Reporting research through verse*. New York: Routledge.
- Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: review, issues and future directions. *The Internet and Higher Education*, 10(3), 157–172.
- Haggith, M. (editor) (2013) *Into the Forest*. Glasgow: Saraband Books.
- Haggith, M (2020a) 'A-B-Tree: using tree lore and literature to support creative writing learners' *Writing in Education*, 80.
- Haggith, M (2020b) 'Celebrating the Culture in Silviculture'. *Scottish Forestry Journal*, 74(2).
- Haggith, M (2021) 'Poetree – A Poetic Inquiry into Interdisciplinary Learning based on the Gaelic Tree Alphabet'. *Green Letters, forthcoming*. <https://doi.org/10.1080/14688417.2021.1982400>
- Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14-26. <https://doi.org/10.3102/0013189X033007014>
- Lahman, M. K. E., M. R. Geist, K. L. Rodriguez, P. E. Graglia, V. M. Richard, and R. K. Schendel (2010). "Poking around Poetically: Research, Poetry, and Trustworthiness." *Qualitative Inquiry* 16 (1): 39–48. doi:10.1177/1077800409350061.
- Lahman, M.K.E, Richard, V.M. & Teman, E.D. (2019) 'ish: How to Write Poemish (Research) Poetry, *Qualitative Inquiry* 25(2), 215-227
- Leavy, P. (2015) *Method Meets Art*. New York: The Guildford Press.
- McEwen, C. and Statman, M. (2000). *The Alphabet of the Trees: A Guide to Nature Writing*. New York, Teachers and Writers Collaborative.
- McKimm, M. (editor) (2017) *The Tree Line: Poems for Trees, Woods and People*. Tunbridge: Worpel Press.
- McMahon, K. (2019) 'Land as teacher: How connection with land, nature and place can support creative writing pedagogy'. *Writing in Education*, 78, 26-33.
- Prendergast, M., Leggo, C., and Sameshima, P. (2009) *Poetic inquiry: Vibrant voices in the social sciences*. Rotterdam, Sense Publishers.
- Richardson, L. 2000. "Writing: A Method of Inquiry." In *Handbook of Qualitative Research*, edited by N. K. Denzin and Y. S. Lincoln, 923–948. Thousand Oaks: Sage
- Sutherland, G. and Beith, M. (2000). *A' Chraobh: The Tree*. Dornoch: Dornoch Press.
- Vincent, A. 2018. 'Is There a Definition? Ruminating on Poetic Inquiry, Strawberries, and the Continued Growth of the Field.' *Art/Research International* 3(2): 48-76.
- Watkins, A. & Tehrani, Z. (2020) 'Brave New Worlds: Transcending the Humanities/STEM Divide through Creative Writing'. *Honors in Practice* 16, 29-51
- Wenger-Trayner, E., M. Fenton-O'Creavy, S. Hutchison, C. Kubiak, and B. Wenger-Trayner, eds. 2014. *Learning in Landscapes of Practice: Boundaries, Identity, and Knowledgeability in Practice-based Learning*. London: Routledge