OPEN ACCESS

INQUIRY ARTICLE

Mapping a department's identity to discuss implications on teaching and learning

Kjersti Daae[1]*, Mirjam S. Glessmer[2], Benjamin Aarø[1], Laura J. Dietrich[1], Tor Eldevik[1], Sarah K. Enger[1], Nilgun Kulan[1], Harald Sodemann[1], Mahaut de Vareilles[1,3]

1 Geophysical Institute, University of Bergen, Norway, and Bjerknes Centre for Climate Research, Norway
2 Centre for Engineering Education, Lund University, Sweden
3 Now at Department of Linguistic, Literary, and Aesthetic Studies, University of Bergen, Norway
* kjersti.daae@uib.no

Received: 2026-02-02; Accepted: 2026-08-15; Published 2026-10-01
Editors: Anja Møgelvang Jacobsen and Robert Kordts

Abstract

"Who are we, the Geophysical Institute?" This question was triggered among staff and students when the legally protected Norway-specific title '*sivilingeniør*' *was* added to a traditional "Master of Science" degree. Will the department recruit more students, or also recruit students from a different student population? Can a possible change in the student population impact the institutional identity? But then, who are "we" now? Do we even agree on how to describe our department's identity, its position in research, education, and society? Can we find a basic description that everybody can identify with? To explore the question of institutional identity and to capture our staff's perceptions prior to changing the study program, we engaged the "all-staff" department retreat in December 2024 with 73 participants, which resulted in a short text describing "us" as a department and as educators. The activity supported good discussions among staff and provided valuable insight into questions concerning who we are as a department and what we strive to be. Here, we outline the process and discuss how establishing identity within a department could influence the sense of belonging and participation among staff and students.

NORSOTL: NORSK TIDSSKRIFT FOR SCHOLARSHIP OF TEACHING AND LEARNING /
NORWEGIAN JOURNAL FOR THE SCHOLARSHIP OF TEACHING AND LEARNING
Special Issue: UiB Læringskonferanse 2025| 2026
Publisher: Research group "Teaching and Learning in Higher Education" at the University of Bergen & Research group "University Pedagogy" at the Western Norway University of Applied Sciences (HVL)
Copyright: 2022 The Author(s). This is an open-access article distributed under the terms of the http://creativecommons.org/licenses/by/4.0/, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.
DOI: https://doi.org/10.15845/norsotl.4846

Keywords*: Gap text, decoding discipline, mad lib, identity, co-creation*

Introduction

Education at the Geophysical Institute

The Geophysical Institute (GFI) is a department at the University of Bergen that educates meteorologists and oceanographers. Since 2004, we have offered a study program consisting of a 3-year BSc followed by a 2-year MSc. However, amid the current competition to recruit STEM (Science, Technology, Engineering, and Mathematics) students in Norway, study programs must continually stand out to prospective students as attractive and relevant. In this competition, our department's meteorology and oceanography study program has been lagging for the last 10 years or so in recruiting from the limited number of high school students with the required specialisation in mathematics. Our students asked for a change from the traditional BSc and MSc to an Integrated Master of Science (Int. MSc) program in Geophysics - Meteorology and Oceanography, awarded with the legally protected Norway-specific title *'sivilingeniør'*. The degree '*sivilingeniør'* is awarded for integrated MSc programs with a strong foundation in STEM courses and discipline-specific applications. The degree is not equivalent to the standard English meaning of the term civil engineer; it is not an engineering degree. The students emphasised the importance of the title for their careers and for attracting prospective students. The program board agreed with the students, and from fall 2025, we offer an Int. MSc program in Geophysics: Meteorology and Oceanography.

While the new study program may offer more varied job opportunities for program graduates, department staff raised valid questions and concerns about its impact on "our GFI." How will this change impact GFI's identity and potentially cause shifts in the student body, including student perspectives and who is attracted to the program? Will there possibly be a greater emphasis on careers than on scientific curiosity? Will the curriculum, which is designed to spark curiosity and interest in the subject, adequately meet the expectations of the new student body and provide future experts with the knowledge and skills to address hard, unsolved problems?

Historical context and identity of the Geophysical Institute

The Geophysical Institute (GFI) at the University of Bergen, Norway, has a proud history, which is commonly assumed to lead to a shared identity of staff and students, following in the legacy of the famous polar explorers: GFI played a prominent role in establishing modern meteorology and oceanography during the early 20th century and has continued to make significant contributions to these fields. GFI is situated in a historic, century-old building protected by the Directorate for Cultural Heritage, which features an observation tower offering views of Bergen and is visible from the seven mountains surrounding the city. Upon entering, visitors are greeted by museum-style oil paintings of renowned Norwegian meteorologists and oceanographers, along with displays of historic artifacts. A lot of teaching is conducted in a historic classroom, which is protected and looks much as it did nearly a 100 years ago – likely influencing who feels like they belong (Gravett et al., 2021, Gravett & Ajjawi, 2022**).** Its proud history is often shared by staff when presenting GFI to various audiences, such as students, new employees, academic colleagues, stakeholders, and the public.

In presenting "who we are" at GFI, we often refer to "identity". Identity is very hard to grasp as a concept, but it "provides the much-needed vocabulary in terms of which we now define our loyalties and our commitments" (Shotter, 1993, p. 5). A "shared social identity fosters a sense of unity, togetherness, solidarity, and community spirit. It cultivates

feelings of belonging and solidarity, facilitating trust and cooperation" (Claridge, 2020, p. 1). It is in this sense, and based on its ecological validity, that we use the concept, since it is the term that members of the department use for what might be challenged or altered by the change to a '*sivilingeniør'* study program.

Interestingly, there had been little or no discussion of GFI's identity until the proposed change to the study program. Questions and concerns about how this change might impact GFI's identity highlighted the need to first understand how GFI's staff perceives its current identity. Is there a shared understanding? How does the proud history described above influence staff, students, and others who shape the department's identity today? Do new members immediately adopt GFI's identity, or possibly struggle to see themselves as part of that proud history?

In this article, we aim to understand how staff view GFI and its identity today, i.e., before the study program changes into an Integrated MSc with a '*sivilingeniør'* title. We base the study on an activity where staff members completed a text describing GFI and our study program, and discuss the implications for what it tells us about our identity, what we do, how we see ourselves, how outsiders may see us, and what we believe our students are currently doing and learning in their study program.

Method

A pragmatist SoTL approach

Mapping members' perceptions of a department's identity is not trivial. The department includes a diverse group of staff and students with varying lengths of residence, cultural and disciplinary backgrounds, ages, and more. The study presented in this article is based on the Scholarship of Teaching and Learning (SoTL; Chick et al., 2025). Specifically, we follow Klockner et al. (2021, p. 3) who describe a pragmatist approach: "pragmatism holds the view that the research question that needs to be answered is more important than either the philosophical stance or the methods that support such stance". We find that the question investigated here – how a department understands its identity – is directly relevant for student learning, since it a) came up when the formal standing of a study program was about to change, b) was framed in relation to how learning would change, and c) affects negotiation of all three purposes of education according to Biesta (2009): qualification (what kind of roles do we qualify students for and what do they need to learn?), socialisation (will the new cohort want to be socialised into oceanographers and meteorologists the way we understand those roles, or will they want to be engineers and we don't know what that means?), and subjectification (do we want students who choose to become something that we aren't role models for ourselves?).

We drew inspiration from the pedagogical framework of "decoding the discipline" (Middendorf and Pace, n.d.), and we acknowledge that there is often a gap between what is explicitly stated and taught and what experts (in our case, staff at GFI) implicitly assume about how the discipline works. The idea is that if experts' mental processes are "decoded" and later modelled, this will reveal the hidden curriculum and implicit assumptions and help students overcome learning bottlenecks. Decoding the discipline usually involves narrow questions and requires a lengthy process. Since we believe discussions about identity should include everyone, and expressions of identity should be co-created rather than imposed by "experts," we aimed to facilitate a discussion with as many GFI members as possible. To efficiently facilitate a small-group to plenary

discussion, we used a "Mad Lib"[1] approach in two sessions during a two-day all-staff retreat. "Mad Libs" are games based on gap texts in which the meaning of a sentence is determined by the word(s) inserted into the gap. Mad Libs have been used in other contexts to get a quick overview of how insiders think about their organisation (see, for example, Hurd, n.d.). For our purposes, it was a way to channel discussion of a broad topic ("who are we?") into constructive, focused conversations to explore how members of GFI perceive their department. We based the gap text on an old paper copy that one of the authors had in their collection of interesting ideas, whose origins we could trace back to a University College Santa Barbara "Brown Bag lunch" for teachers in 2015. Our modified gap text consists of two parts (Appendix 1): part 1 describes what people identify as "our GFI", while part 2 is specifically about the education at GFI.

Participants and procedure

We carried out the gap text activity as two group tasks during an annual all-staff retreat in December 2024. 8-10 participants were intentionally assigned to 8 groups to ensure diversity/balance in gender, seniority (2 student representatives, 16 PhD candidates, 14 Postdoctoral fellows, 10 Researchers, 14 (Ass.) Professors), and roles (7 technical staff/engineers, 53 scientific staff, 9 administration, 2 leadership). We also sought to avoid student-supervisor pairings. Each group discussed the gap text and agreed on a text snippet to fill into an online spreadsheet.

As the gap text was being filled out, the group's usual process involved someone proposing a partial sentence or sharing an impression that might fit the gap. Others then helped by rephrasing or adjusting the suggestion until the entire group agreed on a suitable and fitting statement. These group negotiations towards an easily perceived outcome (filling gaps to complete a logical sentence) on a topic where everyone could contribute created a low threshold for individual engagement. The limited time available required everyone to be pragmatic, so discussions would not drag on. The groups were reshuffled following the same group criteria between the two sessions (two gap texts) to expose participants to different voices.

To collect and further analyse the group responses, we designed a study to accompany the gap text activity. The study included several steps. First, we collected all group responses and fed them as options into an online voting system. Some text snippets had to be slightly modified to fit within the voting system's character limit. The modifications did not change the meaning of the text snippets and mostly shortened long words (e.g., "mathematical" became "mathem.").

Second, during a plenary session of the all-staff meeting, participants voted individually and at their own pace, choosing up to three group text snippets they most agreed with for each gap and ranking them in order of decreasing agreement. Although some snippets from different groups were similar, we kept most snippets as they were rather than pooling similar ones. This could bias voting towards well-articulated snippets, but we considered it a minor problem compared to modifying the snippets. We wanted to show the staff unfiltered/unmodified snippets so they could recognise their own and compare them with others. The only snippet exception, for which we pooled the responses, was a snippet on what students do in class. Here, the responses were almost identical, and 2 snippets were merged with other snippets.

Third, we gathered a diverse analysis group consisting of staff and students who had participated in the gap text activity and volunteered to contribute to further analysis. This analysis group represented 5 of the 8 groups from the gap text activity, and they brought

1 a play on ad lib, from Latin ad libitum - as you wish

reflections and summaries of their previous discussions to a follow-up meeting after the all-staff meeting. Together, we shared reflections on our experiences with the gap text activity and discussed the text snippets provided by the groups, as well as the final texts based on the rankings (Boxes 1 and 2).

Results

The final gap texts, after participants ranking the group suggestions, are presented in Box 1 and Box 2. We also show selected histograms of all group responses to specific gap snippets, along with the number of participants who individually voted for each. We discuss these results in the context of the author group's perspective on GFI and the relevant literature.

Within the Geophysical Institute, insiders or experts have some common perspectives. GFI is rooted in the study of the "interactions within the Earth system, and especially the atmosphere and ocean" (57%). There are some fundamental ways that we look at what we do. One of the most important is that "we combine research and education; we collaborate nationally and internationally; we combine observations and numerical modelling." (48%) or maybe that "we train the next generations of active, informed, and competent citizens." (64%) An outsider or novice might ask (or say) "do you forecast weather? Why is the weather forecast wrong?" (50%) but an insider or expert would never ask or say that. Instead, an insider/expert might ask or say "what are sources and limits of predictability? How robust is your result? What is the role of natural variability in the climatic changes?" (61%)

Box 1. Gap text for "Our Geophysical Institute". The underlined text represents the gap text responses, which have the highest number of votes in a top three ranking (percentage of votes into the top three given in parentheses)

In an undergraduate class at BSc/MSc in Oceanography and Meteorology students usually "listen to the teacher or sit in smaller groups and discuss among each other; Menti (in particular in larger classes)" (67%). In a typical class, an example student project is "analysing real-world data, e.g., from a cruise, using data processing tools, and applying geophysical concepts to the data and write reports" (69%). Students are expected (implicitly or explicitly) to "show independent, critical thinking, connect new knowledge, apply it to real-world problems, and to distil information and communicate to peers" (82%) if they're going to do well in the assignment. When students struggle in class, it's sometimes because they don't realise that "they are required to learn how to apply mathematical knowledge and tools to the physical ocean/atmosphere system, and that they need to ask questions to progress" (56%). To do well, they think that they need to "prepare for the exam; strongly focused on small details (forgetting the larger connections/picture)" (70%). What they aren't seeing, though, is that "knowledge is gradually built up by going back and forth between theory, (numerical) application, and practical experience." (79%) If they saw that, they would "participate actively and build their understanding and concepts rather than memorizing" (58%)." In a nutshell, the essence of the study program is "to develop an intuition for geophysical concepts and to acquire the confidence and skills to apply mathematics and physics" (66%).

Box 2. Gap text "Our study program". The underlined text represents the gap text responses, which received the highest number of votes in a top three

ranking (percentages given in parentheses). Menti, or Mentimeter, as referred to in one of the gaps, is an online student response system widely used for active learning at the University of Bergen.

The groups' gap text snippets were often similar, leaving participants with limited options or variations to choose from during the online ranking. The text snippets most often ranked among the top three by participants are presented in Box 1 ("Our GFI") and Box 2 ("Our study program"), and they show a high level of agreement, i.e., a high percentage of participants ranking them among the top three. We also see that for many gaps, the groups' gap text snippets are similar. For example, in the responses to the gap text on what GFI is rooted in (Figure 1), the keywords "ocean" and "atmosphere" (meteorology) appear in six out of seven responses. In response to "the fundamental ways we look at what we do" (Figure 2), keywords like observations (fieldwork) and models appear repeatedly in various forms.

Despite the consensus on the submitted responses, discussions between the authors reveal that the group discussions at the all-staff retreat were more varied. The final response may therefore not have represented all participants' perspectives, but rather the consensus reached during the subsequent group discussions.

What is "our GFI"?

From the engaged discussions during the gap text activity (but not captured in the consensus and voting), it became apparent that there are different ways members relate to GFI, for example, someone who works in the larger oceanography, meteorology, and climate research groups, versus the newer or smaller research groups, such as renewable energy and marine biogeochemistry. These latter groups were less frequently mentioned when responding to what our research at GFI is rooted in (Figure 2). In addition to the research groups, some participants with technical and administrative roles voiced that the focus was mostly on the researchers and that not enough recognition was given to the importance of these other supporting roles in the department, despite making up 20% of the employees.

In the discussions, it also became apparent that "our GFI" is not only about our research and teaching. For some employees, and perhaps especially among international employees who often only stay in Bergen for a few years, the many social groups (such as a climbing group, a choir, a yoga group, a cake club for practicing Norwegian language, a beer-brewing group, a book club, and many more) appear important for the community feeling across the department.

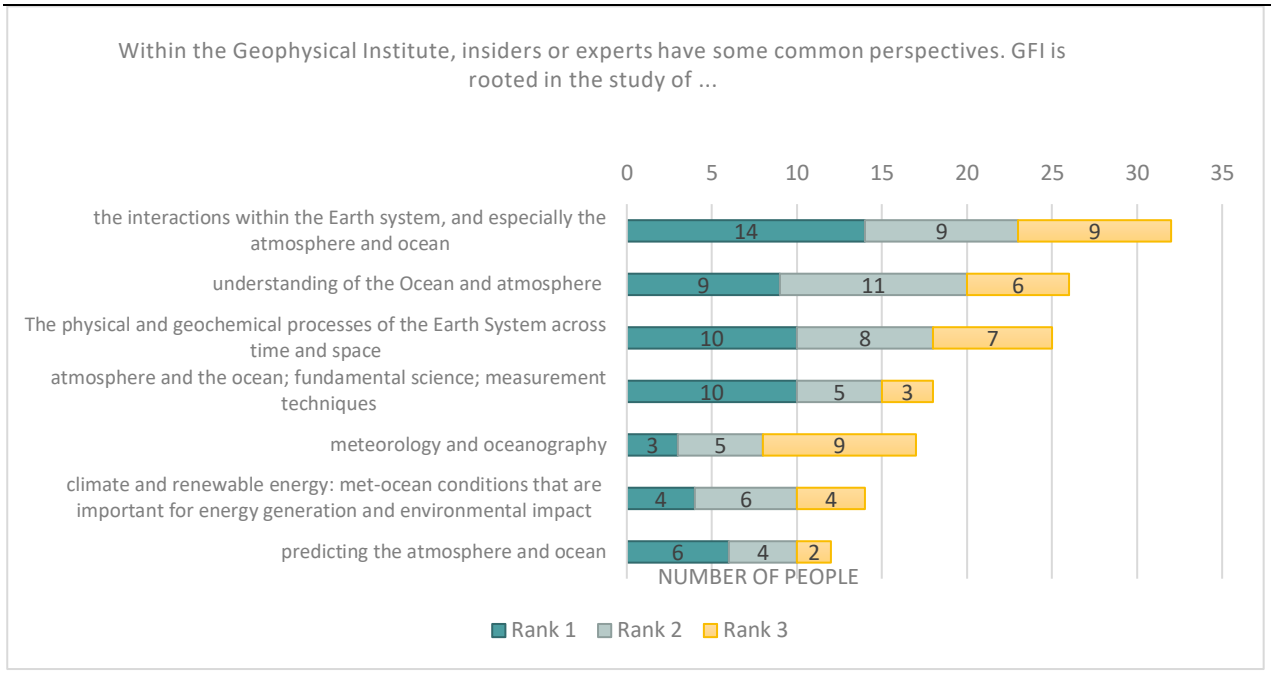


Figure 1. Group responses (gap text snippets, rows) and ranking (colours) for the first gap text prompt in part 1, "Our GFI." The coloured bars provide the number of participants who ranked it first (dark green), second (light green), and third (yellow).

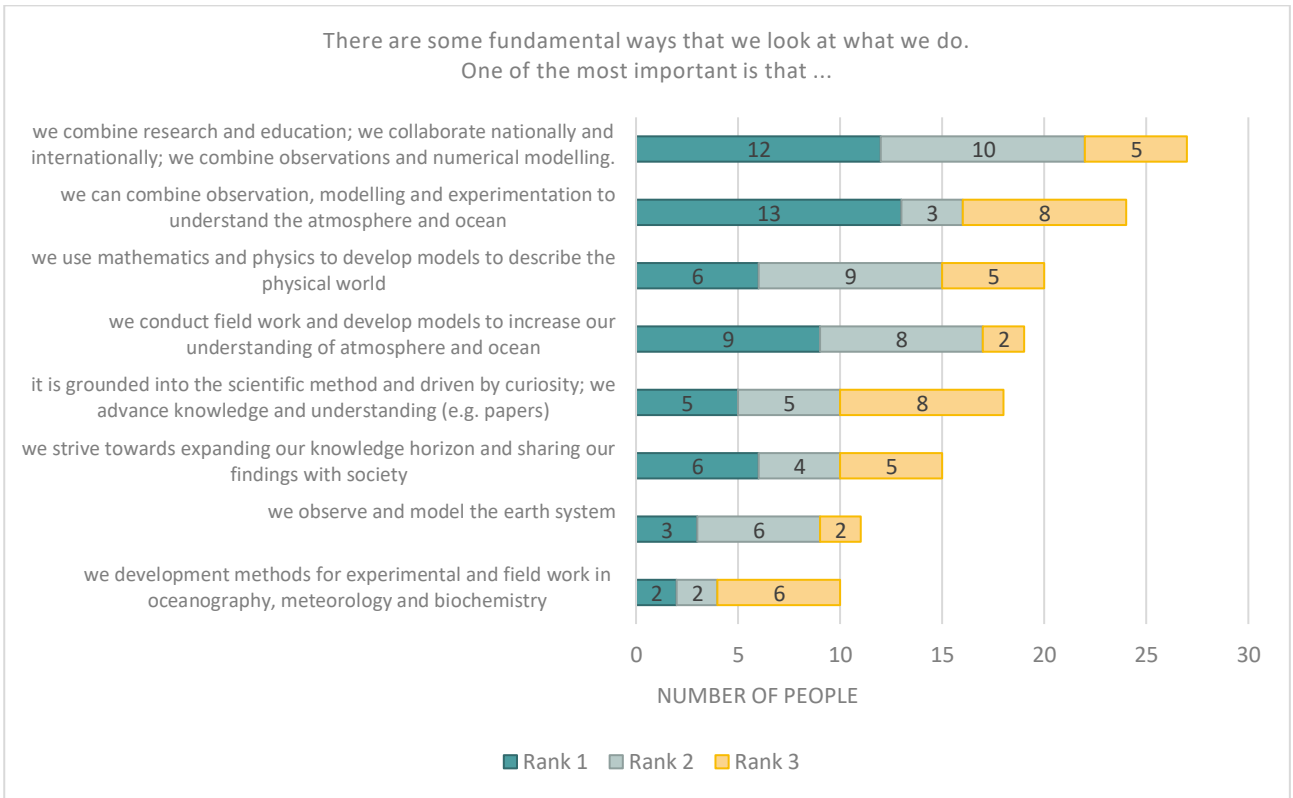


Figure 2. Group responses (gap text snippets, rows) and ranking (colours) for the second gap text prompt in part 1, "Our GFI." The coloured bars provide the number of participants who ranked it first ((dark green), second (light green), and third (yellow).

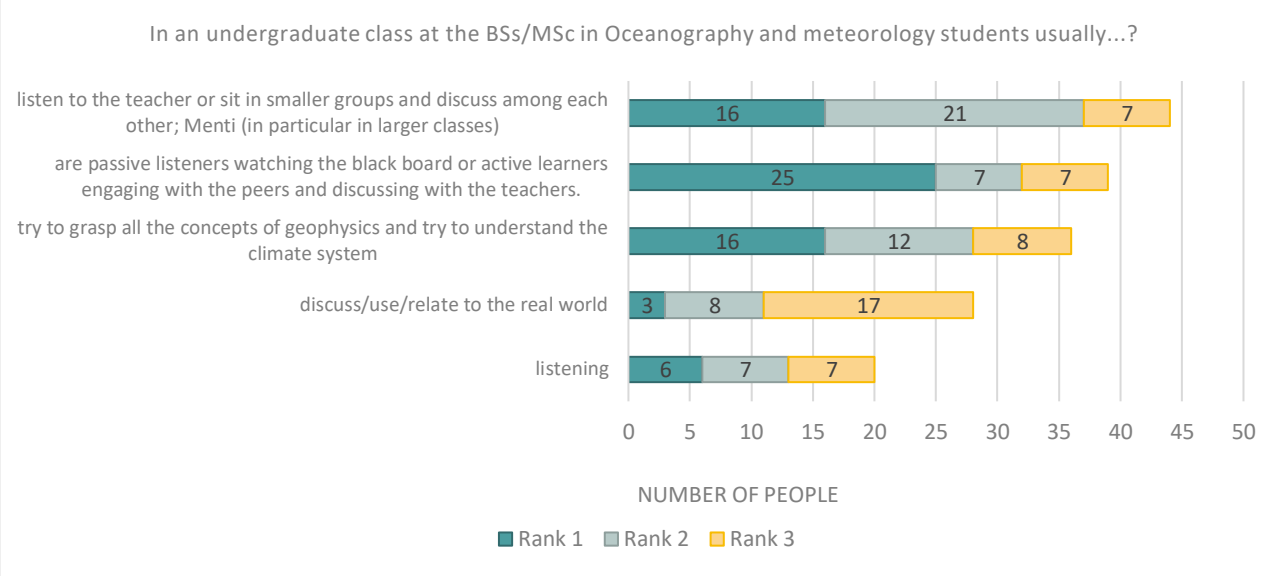


Figure 3. Group responses (gap text snippets, rows) and ranking (colours) for the second gap text prompt in part 2, "Our study program." The coloured bars provide the number of participants who ranked it first (dark green), second (light green), and third (yellow).

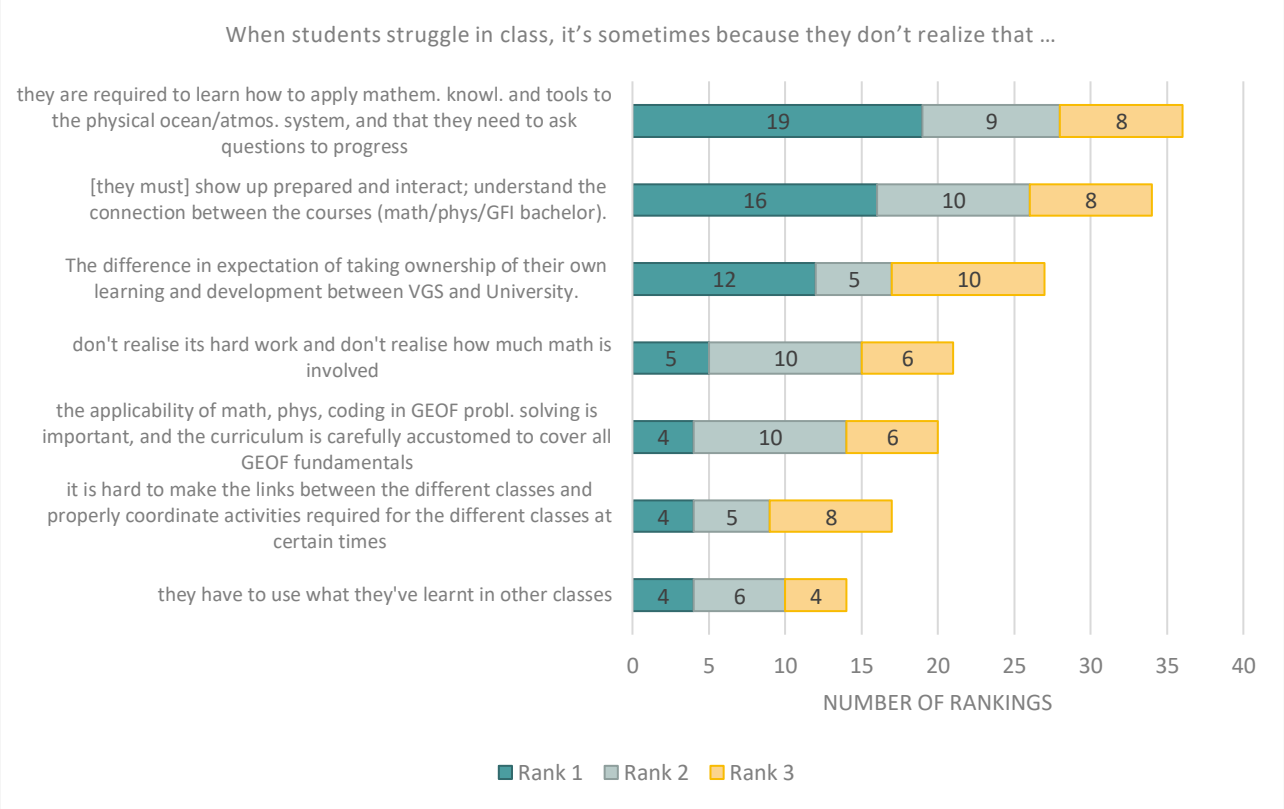


Figure 4. Group responses (gap text snippets, rows) and ranking (colours) for the gap text prompt in part 2, "Our study program", asking why students sometimes struggle in class. The coloured bars provide the number of participants who ranked it first (dark green), second (light green), and third (yellow).

What is essential for "our study program"?

GFI staff, including teachers, agree that a typical class at GFI combines lecturing and active learning (Figure 3). Discussions with peers and teachers are the most frequently mentioned types of active learning (Figure 3). Furthermore, responses show that at GFI, it is considered a key aspect of learning that many courses involve assignments that combine mathematics, physics, and programming. This approach helps build students' problem-solving skills and learning by application (Figure 3). Other mentions include the different expectations for students in higher education compared with secondary school, and the need to combine what students learn across different classes to understand the broader geophysical topics and spark curiosity and a passion for learning (Figure 4).

There is strong agreement (similarities among highly ranked group responses) about what students are expected to do to succeed in their study program (Figure A2). The highest-ranked gap text snippet says that students should "show independent, critical thinking, connect new knowledge, apply it to real-world problems, and distil information and communicate to peers." However, the group responses acknowledge that learning geophysics is hard work and identify several different reasons for this (Figure 4).

Over the last 5 years, there have been extensive efforts to change the teaching and learning culture at GFI, introducing more active learning in classroom settings and elements of co-creation within courses (Glessmer & Daae, 2021). Support from an externally funded project, CoCreatingGFI, and opportunities for staff to participate in teaching-related seminars and workshops hosted at UiBand the national *iEarth* Centre for Excellence in Geoscience Education has likely contributed to the adoption of more active learning in our classrooms (Dunnett et al, 2026).

Discussion

In the following, we discuss our experiences with using the gap text activity to facilitate discussions during an all-staff retreat. We focus specifically on results related to the department's identity and the study program.

A gap text activity as a tool to facilitate discussions

Several participants commented that they enjoyed the gap text activity and pointed out that it helped them focus on the topic. In contrast to typical group activities in all-staff retreats or seminars, the expected output was concrete and appeared feasible to deliver within the allotted time. However, although the gap text activity was designed to engage all participants and give everyone a chance to contribute (through small groups, individual voting, etc.), some groups mentioned that the conversation in their group was dominated by a few voices. In other groups, members made sure that all voices were heard (which we will work to implement more consistently next time, for example, by assigning roles of moderator, note-taker, etc.). We also found that the groups often distilled their conversations into short snippets, leaving out nuances and leading to similar snippets across many groups. Nevertheless, the very simple task of filling in gaps revealed many aspects of how people relate to GFI, how they understand GFI's and their own identity, which might have gone unnoticed in less structured discussions.

Our GFI

In the author's discussions, it became clear that alongside a proud history, excellent scientific output, a healthy economy, and a commitment to teaching and learning, we must ensure that staff and students feel welcome and included at the department. Sharing a common vision and fostering a shared identity could help strengthen a creative

workspace that quickly adapts and effectively responds to the new challenges of our time. From the gap text snippets describing what GFI is rooted in (Figure 1), it became clear that the science keywords were closely connected to the larger research groups at GFI. This could reflect the number of participants in each group from different research fields. It also suggests that a clear official statement of what we do at GFI, including all research areas, would be helpful and/or use a language that is more overarching, stressing the shared contributions to a common goal. Such a statement could build on the gap text snippets, but ensure that all research fields are included.

From the authors' discussion and their reporting of the group discussions, it emerged that a shared identity and sense of belonging at GFI are important topics to address and improve. The sense of belonging among non-permanent staff, administrative staff, and students within the department is essential for building a holistic, resilient identity. Non-permanent staff tend to have high turnover and usually stay at the department for only 3-4 years. Nonetheless, they constitute about 40% of all staff, making their quick integration crucial for shaping and contributing to the institutional identity. The many social groups at GFI, such as a choir, a beer-brewing club, and a climbing group, likely help non-permanent staff feel a sense of belonging. Furthermore, they also take a piece of the department with them to the places they go next and spread their (hopefully nuanced) impression of GFI in the scientific community elsewhere and at future workplaces.

Improving the sense of belonging for students and staff through shared activities instead of utilising the proud history as the assumed core of a shared identity might be more effective. Leaders can, for example, make a real difference if they pay attention to the identity of their staff (Clark, 2025). It is important to see each person as unique and to appreciate the identity they bring to their role, while also recognising and valuing the perspectives of people from all backgrounds, especially those who are different from the majority. The well-being of staff has further consequences for the educational environment and the student experience in the department (Hodgson, 2025).

Author discussions following the gap text activity (and based on the group discussions the authors participated in) identified common challenges to effective integration, such as meetings with too many participants, a lack of awareness about available opportunities, cultural differences, and personal circumstances. Suggested measures to increase integration include clearly communicating existing opportunities, dedicating resources to support staff with backgrounds different from Euro-American cultures, and maintaining immediate, direct, and regular contact with leadership and permanent staff. Most importantly, the institution and individuals within should show each other that they care and that everyone matters both in their professional roles and as people.

In recent years, largely due to the efforts of the head of administration, the sense of belonging among administrative support staff at our department has been addressed and, according to anecdotal evidence, clearly improved. By fostering a cohesive team environment through bi-weekly meetings, occasional social events, and an open-door policy, administrative staff now feel seen and supported within their group, which in turn contributes to increased productivity and overall well-being of the administrative staff. Similar efforts are needed, and will be explored in future all-staff retreats, for other demographics.

And rather than insisting on what people should feel (i.e., that they belong) and making it their problem if they, for any reason, don't feel that way, a kinder approach is to ensure that the institution, the teachers, and peers demonstrate that they matter to each other (Hamshire et al., 2025). This is also very much within the scope of what both an institution, and groups and individuals within it, can do.

Our study program

The competition in recruiting students for STEM education is strong. With our new Int. MSc program in Geophysics: Meteorology and Oceanography, we aim to attract more students and provide them with relevant, high-quality education. To that end, it will remain essential to prioritise consistent recruitment work and demonstrate the relevance of our education, high-level research, and career perspectives. When students arrive at GFI, they should be welcomed into our historic building and into a thriving student community, supported by our staff, that offers opportunities to meet through both social and course-related activities. We acknowledge that students need dedicated spaces for collaboration, study, and social exchange to feel at home at GFI. Since fall 2025, students have taken over a large room near the cantina. Here, students will manage the space themselves and use it as they see fit. We have also finished refurbishing the attic, creating space for long-awaited study desks for our students.

The teaching staff's educational practices have evolved into a collaborative, reflective process grounded in research and supported by regular teachers' breakfasts (Dunnett et al., 2026). As a result, active learning is increasingly becoming a standard at GFI, which is reflected in the gap text snippets (Figure 3). Most teachers incorporate some form of active learning, and staff indicated, through gap text snippets, that students are actively engaged in learning. Students also report high levels of student-active learning in course evaluations and find this useful if the workload is not becoming too extensive (Kordts et al., 2025). Continuing to use active learning is crucial for effective student learning and preparing students for future careers. Additionally, fostering student–staff interactions is important for students' sense of belonging within the department. Students recommended more opportunities to serve as student assistants or to participate in department activities, such as discussions or group meetings, to enhance relevant academic skills and strengthen their connection to the department.

The gap text clearly shows that staff agree on what students should do to succeed (Box 2). However, many teachers report a lack of student engagement and motivation. The teachers also recognise that studying in our disciplines can be challenging. The gap text (Box 2) could help open discussions on engagement and motivation between teachers and students. Following the questions and concerns related to the change of study program, the program board for Meteorology and Oceanography decided to remain highly observant of the current situation, to notice any changes in the educational dynamics that would need to be addressed. The gap text activity made it very explicit what the education is focused on today, the ways of learning, and the ways of working with the subjects. Passing on these important, reemphasised foundational qualities to incoming student generations, while respecting and responding to a possible stronger career focus than before, will be integral to the continued efforts of the program boards to lead and continuously develop the Int. MSc study program in Geophysics.

Implications

The results we describe in this manuscript are, perhaps, not relevant too far outside of our own context. The method we describe, however, is. Using a very simple gap text, we – and everybody else who would like to use this method – can focus large group conversations on very specific questions, and collect focused responses, which are easy to compile, visualise, and present back to the audience. The audience can then also very easily gain an overview of how their own response compares with the rest of the group. This works with staff, as presented here, or students (as we also tried but do not discuss here), or both. The gap text activity can also help identify current issues within a department and open up conversations on how to address such issues.

Conclusions

We have used a gap text activity to facilitate discussions with all members of the Geophysical Institute about "our identity" and our thoughts about our study programs. While we initially assumed a shared identity based on GFI's "proud history", this study revealed that reality is much more complex. (A shared historical identity is common to many of the permanent teaching staff in the traditional study programs, but there are also many other members at GFI who do not identify with it).

Whether the majority gap text accurately describes "our GFI" and "our study program", and whether it is possible to find a consensus on this, cannot be confidently concluded, since the activity has surfaced many ways of relating to "our GFI". We also identified a concern raised in all groups during the discussion, but not in the gap text, about whether all members share the strong identity postulated in our introduction and feel they belong to GFI. We developed suggestions to show everyone at GFI that they matter, both as individuals and in their professional roles. Building a sense of recognition and belonging is not only important for workplace culture but also for teaching and learning: when students and staff feel valued, they are more likely to engage actively, participate in discussions, and contribute to a supportive learning environment, which then improves their learning outcomes. Similarly, we need to explore and address these strategies further with each new incoming student cohort. For them to succeed, the hidden part of the curriculum at GFI needs to be made explicit, possibly through discussing the gap text and interpretations in this article with them, or through running similar gap text activities for students as a starting point to involve them in ongoing discussions on how they relate to our – then common – GFI.

In summary, we found the activity beneficial and rewarding in surfacing these topics. It was a suitable way to approach an intersubjective viewpoint of what characterises GFI, its educational, administrative, and technical staff, and students. The student representatives also appreciated the activity as a meaningful way to engage with the department's staff and leadership, understand their perspectives, and feel included in the department's reflection. We see the work presented in this article as the starting point for developing a shared identity together.

Acknowledgements

This work was made possible and supported by the project CoCreatingGFI, funded by the Norwegian Directorate for Higher Education (HK-dir) under the program for student active learning, DIKU – AKTIV 2021/10219. We want to thank Julia Steckling for contributing to the initial result discussions.

About the Authors

The authors contributing to this article consist of a diverse group of GFI members in order to ensure that we could adequately interpret statements and discuss them in context: participants of the gap text activity (students, PhD candidates, Postdoctoral fellows, Professors, Head of Department, and administrative staff), and the designers and facilitators of the activity (Associate Professors).

Kjersti Daae is an Associate Professor in Physical Oceanography specialising in polar processes such as dense water transformation and basal melting of Antarctic Ice shelves. She is also Head of Education at the Geophysical Institute, University of Bergen, and leads the education development initiative #CoCreatingGFI, a continuation of the HK-dir-funded project with the same name that ran from 2022-2025.

Mirjam Sophia Glessmer was a Postdoctoral Fellow in physical oceanography at the Geophysical Institute, University of Bergen, a decade ago. She was later an adjunct associate professor at GFI, working in the project #CoCreatingGFI, she is now employed at the Centre for Engineering Education at Lund University.

Benjamin Aarø is a Bachelor's student at GFI. He has been active in various student-department relations organisations over the past two years.

Laura Dietrich is a postdoctoral researcher in polar meteorology at the Geophysical Institute, University of Bergen, where she has been co-responsible for the Bachelor course "Physics of the Atmosphere and Ocean" since 2023.

Tor Eldevik is the Head of Department of the Geophysical Institute, and professor in oceanography and climate dynamics, His teaching experience includes data analysis, fluid mechanics, and a broad range of calculus classes at different levels. His educational background is in applied mathematics, turning to climate research with his ten years as a researcher at the Nansen Environmental and Remote Sensing Center before becoming a UiB faculty in 2010.

Sarah K. Enger has completed a bachelor's degree in weather, ocean and climate physics at the Geophysical Institute, University of Bergen. She has also been involved in different student organisations at the university.

Nilgun Kulan has an administrative position at the Geophysical Institute, University of Bergen. She has been in academia most of her life, as a student, teacher, researcher, and administrator.

Harald Sodemann is a Professor in Meteorology at the Geophysical Institute, University of Bergen in Norway. In addition to studying how storms transport atmospheric water vapour, he leads the program board of the study program in meteorology and oceanography, and explores how to best combine practical and theoretical teaching methods.

Mahaut de Vareilles is a research adviser and project coordinator (administration and communication) at the University of Bergen, with a career in academia (student, teacher, researcher, and administrator). She was involved in the project CoCreatingGFI as manager and facilitator in selected work tasks.

References

Biesta, G. (2009). Good education in an age of measurement: On the need to reconnect with the question of purpose in education. Educational Assessment, Evaluation and Accountability (formerly: Journal of Personnel Evaluation in Education), 21(1), 33-46.

Claridge, T. (2020). Identity and belonging. Academy of Management Review, 23(2), 242. https://www.socialcapitalresearch.com/wp-content/uploads/2020/10/Identity-and-belonging.pdf

Clark, J. (2025). Fostering Staff Belonging in Higher Education Through Exploration of Professional Identity (Doctoral dissertation, Northeastern University). https://repository.library.northeastern.edu/files/neu:ms37fm53g/fulltext.pdf

Dunnett, K., A. M. Lundmark, M. S. Glessmer, K. Daae, and H. Sodemann (2025). Impacts of three discipline-specific fora for discussing teaching and learning, International Journal for Academic Development, early access,

DOI: https://doi.org/10.1080/1360144X.2026.2658427

Glessmer, M.S., and Daae, K. (2021). Co-creating learning in oceanography. Oceanography 34(4), https://doi.org/10.5670/oceanog.2021.405

Gravett, K., Taylor, C. A., & Fairchild, N. (2021). Pedagogies of mattering: re-conceptualising relational pedagogies in higher education. *Teaching in Higher Education*, 1-16. https://doi.org/10.1080/13562517.2021.1989580

Gravett, K. & R. Ajjawi (2022) Belonging as situated practice, Studies in Higher Education, 47:7,1386-1396, DOI: 10.1080/03075079.2021.1894118

Hamshire, C., Wilkinson, R. G., Forsyth, R., & Abdi, A. (2025). From belonging to mattering to trust: the experiences of minoritised ethnic students in UK higher education. *Higher Education Research & Development*, 1-14. https://doi.org/10.1080/07294360.2025.2552319

Hodgson, R. (2025). Happy staff, happy students?: Exploring professional identity and student belonging in higher education. In Student Belonging in Higher Education (pp. 132-146). Routledge. https://www.taylorfrancis.com/reader/download/1a0cc0cb-7ccc-45e4-a36f-d711f3f2653d/chapter/pdf?context=ubx

Hurd, H. (n.d.), Mad Libs: The United Nations, retrieved April 4, 2025 from https://foreignpolicy.com/2012/08/13/mad-libs-the-united-nations/

Lindstrøm, C. (2021). The pedagogical power of Wonder Questions. *The Physics Teacher, 59(*4), 275-277. https://doi.org/10.1119/10.0004156

Klockner, K., Shields, P., Pillay, M., & Ames, K. (2021). Pragmatism as a teaching philosophy in the safety sciences: A higher education pedagogy perspective. Safety science, 138, 105095. https://www.sciencedirect.com/science/article/pii/S0925753520304926

Kordts, R., K. Daae, M. de Vareilles, E. Gandrud, A. D. Årvik, and M.S. Glessmer (2025). Student views on active learning in the Geoscience curriculum, Nordic Journal of STEM Education, 9 (3) pp. 19-36, https://doi.org/10.5324/njsteme.v9i3.6361

Middendorf, J. and D. Pace (n.d.), A Framework for teaching and learning – Decoding the disciplines, retrieved November 15, 2024 from https://decoding.webflow.io/

Shotter, J. BECOMING SOMEONE: IDENTITY AND BELONGING. In N. Coupland and J. Nussbaum (Eds.) Discourse and Lifespan Development. Newbury Park, CA: Sage, 1993, pp.5-27. https://www.researchgate.net/profile/John-Shotter/publication/232578885_Becoming_someone_Identity_and_belonging/links/5523e2670cf2c815e0735f1e/Becoming-someone-Identity-and-belonging.pdf

Svarstad, J. (2024, February 02), Studentene bruker rekordlite tid på studiene, men jobber stadig mer, Khrono, https://www.khrono.no/studentene-bruker-rekordlite-tid-pa-studiene-men-jobber-stadig-mer/850099

Appendix 1: The gap texts as we used them for our all-staff retreat

Gap text 1: "Our GFI"

Within the Geophysical Institute, insiders or experts have some common perspectives. GFI is rooted in the study of ___ . There are some fundamental ways that we look at what we do. One of the most important is that ___ or maybe that ___ .

An outsider or novice might ask (or say) ___ but an insider or expert would never ask or say that. An insider/expert might ask or say ___ .

Gap text 2: "Our study program"

In an undergraduate class at ___ students usually ___ . In a typical class, an example student project is ___ . Students are expected (implicitly or explicitly) to ___ if they're going to do well in the assignment.

When students struggle in class, it's sometimes because they don't realise that ___ .

To do well, they think that they need to ___ . What they aren't seeing, though, is that ___ . If they saw that, they would ___ .

In a nutshell, the essence of the study program is ___ .