

‘There's Kind-of More Equality’: A Qualitative Exploration into How a New Active Learning Space Affected Instructors Feelings and Actions

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Abstract

Within Higher Education, the increasing interest in active and collaborative approaches to learning has driven an interest in the impact of space on teaching and learning. A result has been the creation of Active Learning Classrooms (ALCs) which are spaces designed to enable active and collaborative learning. Existing ALCs research has focused on the student experience, impact on student learning and impact on instructor teaching methods. The impact on instructors themselves and how ALCs affect instructors remains under-researched. This exploratory study contributes to this discussion by exploring the perspectives of 11 instructors that used a newly designed ALC, in an Irish University. A qualitative approach was adopted wherein data was gathered via semi-structured interviews and data analysed via an inductive thematic analysis. Key findings are that participants perceived that the different nature of the ALC impacted how they felt while in the space which in turn impacted how they thought and acted in the ALC. Our findings also indicate that the physical spaces that we occupy can impact conceptions of teaching and learning, with these participants associating considerably more democratic and student-centred conceptions of teaching and learning with the ALC and more teacher-centred conceptions with traditional classrooms. Implications from this exploratory study is that those institutions that are keen to embed student-centred approaches may need further investment in ALCs.

1. Introduction

The impact of active and collaborative approaches on learning are well established [1], [2]. Consequently, some of the debate now centres on the spaces where learning happens. There are questions around the effectiveness of trying to implement active learning in traditional classrooms with many favouring new Active Learning Classrooms (ALCs). For the purposes of this study, an ALC is considered a formal space that includes deliberate architectural and design attributes specifically intended to promote active learning [3]. Existing research notes that traditional style classrooms can be restrictive in their

capability to adopt more collaborative, flexible style learning strategies and it is more challenging to ‘actively’ engage learners [3], [4].

While there are many studies on active learning spaces from the student’s perspective, less is known about how teaching in such an environment impacts upon the instructor [5], [6]. Power and Supple [7] observed that while literature has attempted to capture experiences of teaching staff [on learning spaces], they assert that the topic has not been fully explored. Consequently, relatively little is known about how a learning space can make instructors feel. The contribution of this study is therefore to address this gap and begin to understand the instructor experience by exploring how a new active learning space affected instructor feelings and how these feelings influenced instructor actions.

2. Active Learning Classrooms

Active learning is an instructional strategy that requires students to do meaningful learning activity and think about what they are doing [8]. Research on the impact of active learning as an effective instructional strategy is compelling, revealing that it can enhance learning and reduce failure rates for all students but especially those that struggle or are under-represented in higher education [1], [2]. Given the weight of this evidence, and the continued dominance of the lecture as a means of instruction some of the active learning literature has focused on professional development, change strategies and barriers to the implementation of active learning [9]–[11]. Increasingly, the learning space is considered, along with students, teachers and disciplines, to be the *fourth corner of university education* [7] and one of the factors that can support or hinder the successful adoption of active learning.

Attention has been growing in the area of active learning spaces in higher education institutions [3], [12] with universities now considering ‘tomorrow’s students’ and becoming more innovative and creative in the way they use, reconfigure and/or build new learning spaces [13]. “*Spaces shape us and we are affected by the way we interact with and act within a space*” [14, p. 81]. The classroom is at the heart of

learning and the design and attributes of the learning space can alter the experiences of both the student and the educator [15], [16].

To explore the impact of ALC on student learning, studies have compared the performance of students taking a course in a traditional classroom with those taking the same course in an ALC [16]. Findings usually favour the ALC section of the course, often with statistically significant differences in grades [16]. ALCs are also known to impact generic skills or graduate competencies e.g. communication skills in addition to the content knowledge typically measured by grades. However, studies exploring the impact of ALCs on graduate skills are less rigorous and usually rely on self-reported questionnaires. Notwithstanding this, the systematic review [4, p. 9] observes that there *“is growing evidence that changes in the design of a space, together with changes in pedagogy makes a difference in the students’ learning process”*.

According to [3] a large number of studies focus on evaluating the impact of ALCs on student engagement. While student engagement is a broad term that is interpreted differently across a range of studies, the findings generally support the accepted view that ALCs impact positively on student engagement and that students have a positive attitude towards ALC. For example, the studies [17], [18] show statistically significant differences in student engagement in an ALC and a traditional classroom. In both cases, student engagement was measured across a range of parameters including collaboration, active involvement, in-class feedback, physical movement, stimulation, etc. using a self-reported survey instrument. For some instructors, how they value active learning spaces relates to how they perceived their students did in the class [19]. For example, when instructors felt they successfully engaged students they reported enjoyment and found the class meaningful, whereas if they felt they did not engage students meaningfully, it reduced enjoyment and added emotional stress.

In [15] Brooks explores the impact of an ALC on instructor behaviour via an observational study. The instructor designed both sections of the course to be the same, but one section was taught in a traditional classroom and the second in an ALC. The study revealed that while there were no significant differences in the frequency of use of PowerPoint slides or group activities, there was significantly less lecturing, significantly more class discussions, significantly less time spent at the lecture station and a higher rate of consultation with students in small groups in the ALC section. The study suggests that the ALC can influence instructor pedagogy. Using semi-structured interviews with six faculty, [20] explored the impact of learning environments during the teaching process. They found that during the term participants increased their use of active learning strategies and that the *“design of the learning*

environment contributed to the degree to which instructors shifted to more complex active learning strategies” [20, p. 32].

In [21] the authors found that ALCs can encourage instructors to adopt a coach or facilitator role and enhance student-teacher relationships. More generally, they report that faculty had positive attitudes and high expectations when they started to teach in an active learning classroom. Similarly, participants in [22] identify the ALCs with being *“in the trenches”* rather than being an *“absent instructor”* and identified changes in power dynamics between the instructor and the student linked with the *“collaborator role”* that the ALC facilitated. In [5] the authors reveal how the ALC encouraged their participants to reflect deeply on their teaching practice, to question assumptions about teaching and learning, to seek out support from peers and to transform into teacher-learners.

However, the literature also contains some cautionary tales. Some instructors reported that they were uncomfortable with the loss of control when turning the classroom over to student work [23]. The same study identified that new instructors in an active learning space found it to be a *“psychological adjustment”* for all involved [23, p. 66] and indeed some have asserted that it is *“nerve wracking”* because they *“didn’t know exactly how it was going to go”*.

The existing literature generally identifies that ALCs have a positive impact on student learning, student engagement and orientates instructors towards active learning pedagogies. However, ALCs remain under-researched with the systematic review [3, p. 17] noting that an *“understanding of the role that learning spaces play in the learning process is still in its adolescence”* and that there is *“a growing need to understand space as a third component of effective learning experiences, complementing pedagogy and technology”*. Similarly, [6, p. 205] notes the *“paucity of research and evidence about the impact on teacher practice”* of ALCs. Hence, the contribution of this article is to contribute to this under-researched topic and by focusing on the instructor experience and exploring the role of ALCs in educational development.

3. Research Method

The specific research question addressed in this study was to explore how a new active learning space affected instructor feelings and how these feelings influenced instructor actions. A qualitative approach was adopted as the study is exploratory in nature and allowed for the collection of data that is rich, complex, descriptive, and extensive [24]. A semi-structured interview method was utilised. Semi-structured interviews were selected as they offer a flexible approach to gathering qualitative data, allowing for

both predetermined questions and spontaneous exploration. The pre-determined questions adds some reliability to the data-set while at the same time accommodating diverse respondents. Additionally, semi-structured interviews permit probing for deeper insights, fostering a comprehensive understanding of complex phenomena [24].

3.1. The Active Learning Classroom

Figure 1 illustrates the ALC that is the focus of this study and is located within the Business School at an Irish University.



Figure 1. The Active Learning Classroom

The ALC has capacity for 40 students and includes the following resources: a range of software including simulation software and tools, round tables and non-fixed seating, a wall of glass opening up onto the main university thoroughfare, interactive plasma screens, whiteboards on wheels, hot desks, cameras to facilitate hybrid events, Play-doh, Lego, Mechano, iPads. It can be used as a prototyping space, a "maker space", and an "ideation lab".

3.2. Participants

The participants for this study are multi-disciplinary instructors that have used the new ALC. Due to the General Data Protection Regulation (GDPR) the researchers did not have direct access to instructors that used the ALC and therefore permission was sought to send an 'invitation to participate' email via the ALC Director. A total of 17 invitations were sent to instructors, with one follow up email. 11 instructors took part in the study. Figures 2 and 3 present some participant demographic information relating to discipline area and gender.

3.3. Data Collection

Prior to commencing the interviews, ethical approval for the study was obtained from the University Research Ethics Committee.

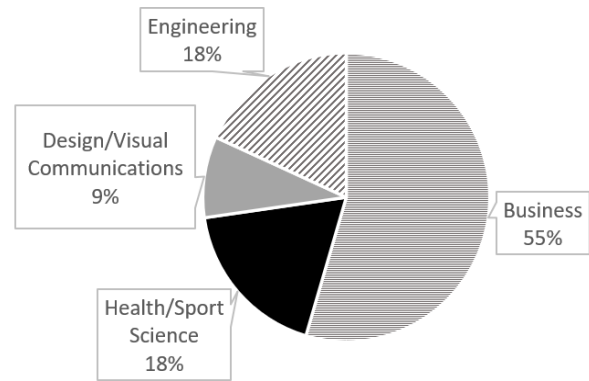


Figure 2. Participant Demographics by Discipline Area

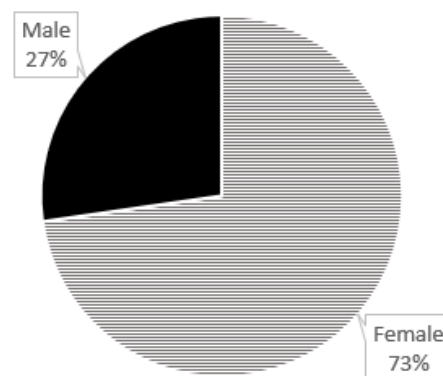


Figure 3. Participant Demographics by Gender

Ten interviews were conducted face-to-face with one interview conducted on Zoom. In total over five hours of interviews were conducted. Interviews were recorded and transcribed by a third party and a data confidentiality agreement was put in place. Each participant was given an identifier code to protect their identity, for example [P1 – P11] which are also used when reporting the findings. The researchers have considered ethical protocols throughout the study, with regard to recruiting participants, informing them of the purpose of the study, statements of intended use of outputs, pseudo-anonymising the data and how the data is stored and managed.

3.3. Data Analysis

An inductive thematic analysis was undertaken when analysing the data. This approach was informed by [24], [25] and Table 1 summarises the key stages of the thematic analysis process that was adopted.

Table 1. Thematic Analysis Process

Step	Action & Process
1	Familiarisation Transcripts received from third party. Initial read through all 11 transcripts
2	Coding Initial coding of first 3 interviews Read individual transcripts and compiled initial codes under the research questions. Re-read transcripts, taking notes, highlighting text, formed code-book Used code-book to code each of the eight remaining interviews. Modified the code-book by adding new codes as they were identified.
3	Generating themes Reviewing all codes, explored commonalities and merged codes to form categories.
4	Reviewing themes Refined categories into key themes. Mindful that this is an exploratory study and some minor themes may be relevant in order to give overview of lecturer experiences and perspectives.
5	Defining and naming themes Allocating meaningful names to themes

Table 2. Codes and Representative Quotes

Code	Supporting Excerpts
More Democratic	<p><i>"It makes me feel a little bit kind of - less like a teacher or lecturer and more like, I don't know, like it's at a seminar or a workshop or something like that and there's kind of more equality and giving and taking in the space whereas I tend to feel – maybe it's the way I teach maybe – that it's very one-sided and I find lecturing very draining because 45, 50 minutes ... sometimes an hour and a half, it's you, you, you, and it's all you" [P9].</i></p> <p><i>"...that open spacious format of the Growth Hub is very kind of mentoring in the way that you engage with students, so it doesn't have that top of the class down to a student sitting in a class feel about it" [P3]</i></p> <p><i>"I often feel that the students feel that's the domain of the teacher or the expert. So, it really dissolves that formality, that feeling of us as lecturers or knowledge providers knowing everything and the student being in this novice mode where their contribution is something that they can't be confident about. So, I think it really helps with that element" ...[P3]</i></p> <p><i>"It feels like a different space. It's not the same space you're in all the time and that kind of drops maybe the rules or expectations and it just allows people to be a bit more free and open, I think" [P4]</i></p> <p><i>"It gives them a bit more freedom to explore their beliefs and understandings and kind of feeling that there is no real limitations maybe in that space, whereas maybe in the classroom, there's a lot more, "This is the theory" and listen, you have to know the theory." [P5]</i></p> <p><i>"We're exploring things together. ... I'm physically not at the top of the class. I'm moving around. We're having a bit of discussion" [P7]</i></p>

Creativity and Collaboration	<p>“...it encourages collaboration and it's just a nice space and it looks very different from a traditional classroom” [P2].</p> <p>“it was the first time I probably experienced reciprocity with them in that, up until then, I had been feeling like I was putting in a lot of effort and bar a handful of students, I wasn't getting an awful lot of it back. Whereas there it was a lot more ...” [P9]</p> <p>“I think, yeah, I would like to think that, yeah, it's an exciting space. It's creative. It just feels quite, as I said, full of possibility really” [P2].</p> <p>“Yeah, I think it's a very free, open kind of creative space where you can share, and I even feel the vibe with students is more relaxed ...” [P5].</p> <p>“It really got them kind of thinking together and thinking outside what they feel they should do and have to do and can only do. So I think that actually really helped the connection between them” [P5]</p> <p>“I brought a [removed to protect anonymity] along this semester to a module where I do a bit of problem-solving with them. I'd say it consolidated what I had been doing and what I thought I should be doing, but I didn't really feel very confident about that topic and then the being in a different environment and being in an environment where it's set up for problem-solving, I think the group work aspect of it just seemed to suit that topic very well” [P10].</p> <p>“I sort of feel more innovative myself. I sort of feel ... I'm in a, we'll call it an ideas mode. I'm in a discovery or I have a discovery orientation. I don't know what's going to come out or what, or at least, I don't know what shape it will have. I do have certain outcomes that I want to achieve but what they will look like, I don't know” [P7]</p>
Feels Different	<p>“Just it's vibrant. It's different. I think that's good. It feels less like a traditional classroom. ... It's a different space, so I think that physical space being different makes you kind of feel a little bit different as well. So yeah, I think it's an effective thing. It definitely changes the way you feel or think [P2].”</p> <p>“I think the value of it is that it feels different. It feels like a different space” [P4]</p> <p>“So definitely, it's a change of environment. It's a change of a physical structure, I think, and the environment as well and even physically, it's a bright room” [P9].</p> <p>“It feels very calm, yeah, and like someone wants the students and staff to be there. Sometimes you feel in some of the classrooms that so many things don't work and you feel, you just feel not wanted” [P10]</p> <p>“It just really feels energised. It feels more dynamic, more fluid, not as rigid” [P3]</p> <p>“You go in there and it's bright. You feel energised and I think they felt energised too” [P9]</p> <p>“there is kind of this nice sense of peace and calmness. I don't even know how they create that. It's kind of this ambience thing where you walk in and it's kind of like relief, and maybe it's the fact that it doesn't look like every other classroom in the college. I don't know. But it just feels like, “Oh, let's just sit down here” and it's not as if the chairs are any more comfortable than most of the other classrooms or the chairs or the tables are any different. It's just this kind of feeling that you walk in here and as I say, you can exhale and you can come in and enjoy yourself and have a bit of fun, and maybe that's the novelty element of it. Maybe it's the novelty element of the room, that there's not too many of them on campus that makes it, ‘Oh, this is actually going to be interesting’..” [P8]</p> <p>“the glass, the light, the colours even, all of that just feels like a much more open space” [P4]</p>

Student Engagement	<p><i>"I was probably more excited about it as well to be honest because I think it was a more fun task and I was definitely looking forward to it in a way that – not that I wouldn't have been in the classroom. But I was more ambitious about what learning could be achieved because I thought, "Wow, I can do lots of stuff in this space" [P4].</i></p> <p><i>"I feel better because the students are enjoying it" [P1]</i></p> <p><i>"And I suppose maybe I feel energised, they feel energised and we feel there's a sense of achievement at the end of it of what ... That's one thing is that maybe after classes in traditional classrooms, you come out going, "Well, I've just delivered that topic" whereas there it's, "Well, actually, I've maybe come up with an idea or I've developed a solution to a problem" or ... There's kind of a more tangible level maybe in output" [P1]</i></p> <p><i>"Yeah, as I said, when you get that exchange of ideas between you and your students or even other colleagues and it's fun. I think it's fun. Learning should be fun and we should be able to have fun" [P2]</i></p> <p><i>"So, and I find it's a better experience for me because they're having a better experience in there" [P1]</i></p> <p><i>"I came out of here and I felt energised and I felt like I had actually contributed something, if you know what I mean. I felt like they got more out of it" [P9]</i></p> <p><i>"Students get more out of it. They actually feel really empowered, I think, and one student said to me, 'I was up last night just thinking about what I'm going to do for this project'. And I said, 'Oh my God, that makes me feel great' and she was like, 'No, there's something wrong with me. Why am I thinking about that?' So I just felt so delighted. [P5]</i></p>
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4. Findings

The main theme uncovered was that the physical spaces that we occupy can impact conceptions of teaching and learning, with these participants associating considerably more democratic and student-centred conceptions of teaching and learning with the ALC and more teacher-centred conceptions with traditional classrooms. Table 2 presents the identified codes from the thematic analysis to support this theme and example, representative quotes from participants to illuminate the identified codes and the data analysis process.

5. Discussion

The findings revealed that the majority of participants identified that the ALC *"feels different. It feels like a different space"* that *"it's vibrant"* and that *"it doesn't feel like a classroom"*. The language that participants used to describe how the ALC made them feel is really positive. Participants talk about how *"the feeling around the space is quite nice"* and how they felt *"energised"*, *"free"*, *"open"*, *"relaxed"*, *"fun"*, *"calm"*, *"comfortable"* and *"wanted"*. While positive, the range from being energised by the learning space to feeling relaxed, calm and comfortable is quite remarkable. This positivity aligns with existing research that showed faculty had

positive attitudes and high expectations when they began teaching in an ALC [21]. The vibrancy and energy that participants associated with the ALC contrasts sharply with the language used to describe traditional classrooms within the university. When comparing spaces, Participant 9 remarked *"I actually can see in my mind, FO2 and FO4 [traditional classrooms] are grey. There are grey walls. There are grey ceilings"* and similarly Participant 8 notes *"A lot of the rooms that we would teach in would be grey"*. Participant 8 then continues to explain how this greyness can impact teaching and learning *"it doesn't necessarily give you the same output because grey walls don't inspire you a lot of the time. ... It's actually the way in which they create an atmosphere down there. I think that that plays into it quite a lot"*. These findings resonate with research in [5] which contrasts the uninspiring traditional classrooms and how the ALC instilled a desire to be creative.

The data also reveals that the different character of the ALC and the affect that had on participants influenced their actions. On a general note, Participant 2 commented how the *"physical space being different makes you kind of feel a little bit different as well. It definitely changes the way you feel or think"*. Other participants identified more specific impacts e.g. *"it doesn't feel like a classroom. So, it encourages collaboration"*; *"I think it's a very free open kind of creative space"*; *"it's an exciting space. It's creative. It just feels quite as I said, full of possibility really"*;

"It makes me feel a little bit kind of less like a teacher or lecturer and more like, I don't know, like it's at a seminar or a workshop or something like"; "I sort of feel more innovative myself". The nature of the ALC clearly then prompted many participants to be more ambitious about the type of learning could be achieved by being in the active learning space. The possibilities offered by the ALC stand in contrast to the more limited activities associated with traditional classrooms. In *"traditional classrooms, you come out going, 'Well, I've just delivered that topic'..."* or *"in the classroom, there's a lot more, 'This is the theory' and listen, you have to know the theory'..."*. This impact on instructor pedagogy is also evident in the limited literature that explores how ALCs impact the instructor experience. For example, [15, p. 8] reporting on a quasi-experimental study concludes that *"different classroom types are conducive to different outcomes: traditional classrooms encourage lecture at the expense of active learning techniques while ALCs marginalize the effectiveness of lecture while punctuating the importance of active learning approaches to instruction"*. This finding also aligns with the research by [26] which reveals how space, people and interaction are intertwined – instructors read a space and their actions are influenced by that reading.

While ALCs can encourage the adoption of alternative, research-informed teaching strategies, a significant finding from this study relates to how ALCs can help to deconstruct traditional boundaries and enable more democratic, student-centred perspectives. This is revealed in the language used when discussing the ALC. Participants talked about how: its *"a kind-of creative space where you can share"*; you can *"debate things out and share ideas"*; *"the open spacious format of the Growth Hub is very kind of mentoring in the way that you engage with students"*; *"there's kind of more equality and giving and taking in the space"*; *"it really dissolves that formality, that feeling of us as lecturers or knowledge providers knowing everything and the student being in this novice mode where their contribution is something that they can't be confident about. So, I think it really helps with that element"*; *"We're exploring things together. ... I'm physically not at the top of the class"*. Again, these descriptions contrast sharply with the language used when talking about traditional classrooms e.g. *"so it [ALC] doesn't have that top of the class down to a student sitting in a class feel about it"* or *"it's very one-sided and I find lecturing very draining because 45, 50 minutes ... sometimes an hour and a half, it's you, you, you, and it's all you"*. This change is also reported in some of the ALC literature, where instructors have identified a *"psychological adjustment"* [23] for both the educator and the students when the power dynamics change and the instructor becomes more of a facilitator and learning is more collaborative [22]. The

literature has established clear links between how instructors conceptions of learning, the strategies they implement and the impact on student learning [27]. Hence the literature on change and professional development in higher education emphasizes the importance of conceptual change as well as developing competences related to instructional strategies. This exploratory study suggests that physical spaces could act as another strategy to impact conceptions of teaching and learning.

This study also indicates that instructors' feelings were related to positive levels of student engagement and positive outputs from the ALC. In the data, participants highlight how *"students are enjoying it"*, *"students get more out of it. They actually feel really empowered"*, *"they're having a better experience in there"* and *"I think it was a more fun task"*. As a consequence, staff report that *"it's a better experience for me"*, *"I feel better"*, *"that makes me feel great"* and associate a range of positive emotions with increased student engagement e.g. *"excited"*, *"energised"*, *"delighted"*. This finding broadly aligns with [19, p. 739] which identified that *"well-designed activities and engaged students"* impacted instructors overall valuation of active learning in ALCs.

Research indicates that active learning is transformational and works across disciplines, genders and contexts and positively impacts the learning of all students including those that are often marginalized or disadvantaged within higher education [1], [2]. Consequently, both the literature and higher education institutions are keen to explore the challenges or impediments to implementing active learning along with strategies that support the uptake of more student-centred approaches [9], [11]. An implication of this study is that space can influence how instructors feel which in turn can make them more open or reluctant to adopt active learning strategies. This and related research on active learning spaces [3], [4] suggests that higher education institutions need to reconsider the spaces that staff and students are asked to occupy and if higher education is intent on transforming the undergraduate experience, institutions need to consider investing in physical learning spaces that nurture active, collaborative and student-centred learning approaches.

In the literature on student-centred learning, Mary-ellen Weimer identifies five fundamental changes that enable learning environments to become more learner-centred [28]. While instructors can readily identify with some changes (e.g. active and collaborative learning) balancing the role of power can be more challenging for higher education staff. Within the classroom, power can be manifested in numerous ways including through the voices of those that are heard and valued, those privileged with learning-related decision-making activity, those that are considered authorities etc. A distinct finding from

this exploratory study is that learning spaces can also act to either reinforce or dismantle traditional power dynamics. Participants identified that traditional classrooms have that “*top of the class down to a student sitting in a class feel about it*”. A different environment with the potential to “*do lots of stuff*” appears to have challenged the more traditional teacher-centred conceptions of teaching and learning. While participants were in the ALC, they appeared to have been prompted to re-conceptualise teaching and learning and adopt a more democratic perspective that valued sharing and collaboration and deconstructed traditional teacher and student roles. Given that power is deeply embedded in teacher-centred approaches, this impact of ALCs may form one aspect of a strategy to help democratise higher education. An implication is that those institutions that are keen to embed student-centred approaches may need further investment in ALCs.

6. Conclusion and Limitations

The learning spaces we find ourselves in have the ability to shape us and we are very much affected by the way we interact with and act in a space [14, p. 81]. This exploratory study uncovers how a small sample of instructors were affected after engaging in a new Active Learning Classroom (ALC). Key findings are that participants perceived that the different nature of the ALC impacted how they felt while in the space which in turn impacted how they thought and acted in the ALC. Our findings also indicate that the physical spaces that we occupy can impact conceptions of teaching and learning, with these participants associating considerably more democratic and student-centred conceptions of teaching and learning with the ALC and more teacher-centred conceptions with traditional classrooms. Hence, the study contributes by demonstrating the power of teaching and learning spaces on individual educators. We recommend that University Management note the potential of ALCs and the changing nature of teaching and learning and provide spaces, tools and resources that promote and/or facilitate active and student-centred approaches to learning.

A limitation of this study is the small-scale nature as the sample was limited to 11 instructors that engaged with the ALC within a single university. As per the nature of qualitative research it is not the intention of the researcher to generalise, rather the findings may have applicability to other active learning contexts with similar characteristics. The ALC is new, and this may have positively skewed instructors’ responses. Participants were all volunteers and this may bias findings as the sample may represent instructors that were more open to student-centred approaches. Additionally, since instructors self-selected to engage with the ALC in the

first-place, these may represent instructors that were already successfully using active learning.

Further research could explore instructors’ experiences and perspectives over a longer time frame and with a larger sample taking into account instructor’s prior conceptions of teaching and learning and prior experiences of active learning.

8. Acknowledgement

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Disclosure Statement

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