Why Teacher Led Instruction Really Works

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Abstract

Since the 1980s the notion of teacher led instruction (Direct Instruction) has been largely dismissed in favour of a more student-centered (Indirect Instruction), collaborative, problem solving type pedagogy. Certainly, the student-centered approach, characterized by inquiry, problems solving and active learning, is an effective practice which is supported by empirical evidence (Yuen & Hau, 2006). However, this pedagogical division between the 'sage on the stage and the guide on the side' (King, 1993) type approach to teaching has led those in education to believe that Direct Instruction is the lesser cousin to Indirect Instruction and therefore should be minimized. This paper questions this common narrative, and drawing on research and current literature argues that there is a significant place in education, for the 'sage on the stage'. The author suggests that teachers should consider adding another tool to their teaching repertoire and revisit this approach, at times, when needed, in order to maximize student learning. To support the literature, this paper presents findings collected from student and faculty perceptions on teaching pedagogy, which provide evidence to suggest the effectiveness of Direct Instruction alongside Indirect Instruction as a classroom instructional practice. This study takes place in a tertiary institution in the United Arab Emirates referred to in this paper as Dubai University. This research contributes to knowledge by filling a gap in the field on the perspectives of learners and teachers on Direct Instruction and by raising awareness around the role of Direct Instruction within education.

Keywords: Direct Instruction, Indirect Instruction, Teacher Centered, Student Centered, United Arab Emirates, Teaching Pedagogy

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Introduction

Background

Within teaching pedagogy there is a wide spectrum from more traditional teaching-centered, rooted in behaviorism, to more student-centered viewed as current and leaning on social constructivism (Pegalajar, 2015, Serin, 2018). In fact, teacher led/Direct Instruction has become almost demonized within education in favour of discovery learning, group work, collaborative, student centered tasks (Morrison, 2014). This student-centered approach is generally seen as the gold standard benchmark from which current practice is based (Saunders & Goldenberg, 1996). However, this is an overgeneralization that does not serve any of the stakeholders from learners, to faculty to management as it limits classroom practice and is based on a 'one size fits all' set of assumptions (Schuh, 2004). As a result of this lean toward student-centered classroom, teachers have been busy devising ways for students to collaborate and reduce our teacher input, evidenced by the plethora of research to support the use of student-centered learning (Borda et al., 2020). Meanwhile, a quiet revolution has been taking place as research suggests that there is explicit value in teacher led instruction (Jennings, 2012). This paper seeks to uncover the evidence and beliefs around Direct Instruction and presents both an examination of the literature and findings collected from student and faculty perceptions on this approach. It asks the question that is key to all teaching, what are the foundations of our pedagogical stance? Is teacher centered actually the less sound approach that we perceive it to be?

It is important to note that this research is not dismissing discovery/ collaborative learning, the author is indeed an advocate of this approach. This research is an exploration, triggered by reading around the impact, and renaissance of Direct Instruction and a curiosity about its place and effectiveness in the author's context. The authors' interest was piqued from this reading and as she experimented with a more direct approach at times she found informal student feedback to be positive, thus initiating the need for a more formal study.

Indirect Instruction: Definitions and Literature

To begin, it is important to establish common definitions of both Direct and Indirect Instruction.

Indirect Instruction is what is more commonly referred to as student centered teaching, born out of the pedagogical foundations of constructivism, standing on the shoulders of the 'giants' in the educational world of Piaget and Vygotsky (Al-Humaidi, 2014). Key here is that students 'construct' meaning, 'create an understanding' of their world, and they are active learners engaged in social exchange (Massouleh & Jooneghani 2012).

A table by Khusnik (2021, pp 9-10), categorizes Direct and Indirect Instruction with key features of Indirect Instruction identified as:
- Determined by learners
- Students are active
- Learner interaction
- Concepts checked
- Student centered e.g student decide on learning activities
- Flexible seating
- Inquiry based

- Discovery driven
- Problem solving

Literature concurs with this definition and we can see a picture of Indirect Instruction emerging as one being pedagogically effective, engaging for the students and inquiry driven (Geisli, 2009; Alrabai, 2016). Indeed, there are literally hundreds of thousands of research articles in support of an indirect student centered approach based on the same principles. A rudimentary search on google scholar cites 357,000 articles on the benefits of Indirect Instruction.
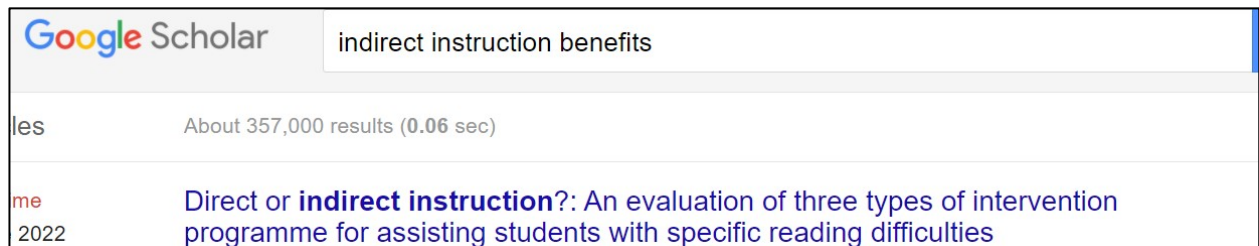

Figure 1: Google scholar search Indirect Instruction Personal Experience

Alongside the literature, for many of us in education, our first taste of Direct and Indirect Instruction was experienced as teacher trainees. The author had her first understanding of Indirect Instruction in the 1980s when doing a CELTA (Certificate in Teaching English to Speakers of Other Languages). It was in this context where the idea of teacher talk was introduced with great zeal and it was deeply instilled in candidates that the aim of the teacher was to talk as little as possible and 'elicit, elicit, elicit'. The notion behind this is that in communicative language teaching it is the students' job to talk and the teachers to facilitate that that communication (Mackenzie, 2018).

Interestingly, an article by Hitotuzi (2005) questions this approach. In an experiment that carefully tracks her teacher talk time, (which she acknowledges as higher than recommended at 40-60%), the author is able to provide evidence for a student centered approach, despite the perceived excessive time spent talking.

As educators we would be hard pressed to find an argument *against* incorporating some type of Indirect Instruction into our practice. This is based not only on the literature but on experiences gleaned from anecdotal evidence from the countless conversations the author has had in staffrooms and various corridors of learning.

Direct Instruction: Definitions and Literature

In contrast, there are numerous arguments that are less supportive of Direct Instruction, and one of the conundrums in this pedagogical discussion is that Direct Instruction is often misunderstood and misconceived.

Rüütmann and Kipper (2011) describe Direct Instruction as the "rapid attainment of facts, rules and action sequences. Content is divided into small, easily learned steps through the presentation, involving brief explanations, examples, practice and feedback" (p. 112).

In an article published by the University of San Diego, Joseph Lathan, professor of teaching and learning presents an article detailing teaching types and describes Direct Instruction as a

way for teachers to transfer knowledge without allowing for practice. He says: "teachers convey knowledge to their students primarily through lectures and scripted lesson plans, without factoring in student preferences or opportunities for hands-on or other types of learning" (Lathan, 2022, para 12).

Kassem (2018) argues against teacher centered learning claiming it is said to "prevent students; educational growth because in teacher-centered classrooms teachers do most of the work and the learners are always passive recipients of knowledge" (p. 134).

The imagery here is almost one of a 19th century educator blindly lecturing, drilling in facts, with little regard for their students.

The visual illustration below, from popular teaching and learning platform study.com captures the public perceptions of Direct Instruction. Here the teacher is seen as the authority figure lecturing to students who appear nonplussed. While lacking kudos in the elite academic community, as an institution boasting over 30 million students per month, study.com is not a platform without influence (Take online courses, 2022).
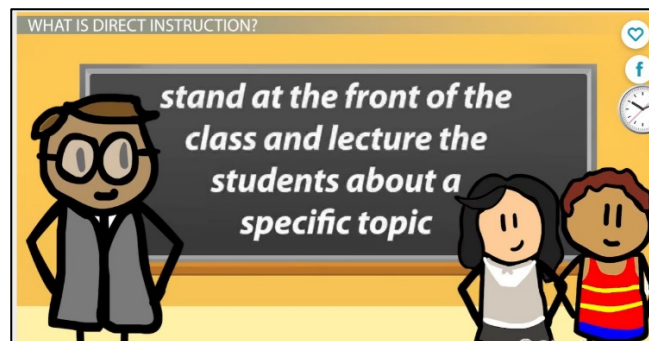

Figure 2: Study.com image of Direct Instruction
(Direct Instruction vs. Indirect Instruction, 2022**)**

In Defense of Direct Instruction

What this image fails to represent is that lecture style may comprise a much more active and engaging learning experience, as Maynes (2012) succinctly puts it "Teacher input sessions, often referred to as modeling, include a much more *dynamic interaction and exchange of ideas* than is implied by the description lecture-style presentations" (p.41).

The author is reminded here of the parable of the emperors new clothes where a common belief is accepted perhaps with little to support it. However, the objective of Direct Instruction is rooted in practices we still value today.

Historically, the term Direct Instruction was aimed to capture a more intentional instruction and was developed by Engelmann and his colleagues (Engelemann 1992) with two main assumptions: 1) Children learn when they are explicitly taught, and 2) Teachers can 'teach' effectively when equipped with the correct instructional techniques. These 'techniques' involve a careful scaffolding of material, scripted lessons to ensure instructions are clear and comprehensive, continuous assessment and incorporate a number of activities for students to practice their skills (Engelmann, 1998). Apart from the use of scripts, these principles still hold strong today and the foundations that Direct Instruction are based on are sound.

The notion of teacher centered Direct Instruction has been revisited by Barak Rosenshine whose seminal chapter "The Emipirical Support for Direction Instruction" (Rosenshine, 2009) argues that guided practice is integral to Direct Instruction followed by a strategic transfer of responsibility to the learners. This approach is often referred to as the *gradual release of responsibility* model (Fisher, 2008), and describes the shift from teacher reliant to co-creators with teacher, to independent application and practice. Direct Instruction does not necessarily equate to 'talking at' students, rather it is purposeful, often interesting and engaging, well planned guided practice (Rosenshine, 2009).

Direct Instruction has been prone to misinterpretation and a certain bias amongst the academic community, perpetuated by a 'myth' of the stand alone, fairly dry, 'teacher knows best approach'. Where is the evidence for this?

What does the literature say?

An examination of 328 studies on Direct Instruction from 1966- 2016 (Stockard et al., 2018) points to the overall effectiveness of this approach in the classroom across a broad range of subjects. A study by Pascarella & Blaich (2013) exploring factors which foster successful liberal arts learning cites the role of the teacher as critical in classroom instruction. Findings suggest the need for teachers to present material effectively and 'teach', arguing that developing teachers' instructional skills should be high on any institute's agenda. In an examination of discovery learning, Alfieri, et al., (2011) conducted 2 meta analyses of 164 studies, their findings reveal that explicit instruction was a consistently more effective pedagogy than unassisted discovery. An aptly titled article by McMullen and Madelaine (2014): *Why is there so much resistance to Direct Instruction?* acknowledges that while there is empirical evidence to support the implementation of Direct Instruction it is often widely criticized. The article goes on to outline the virtues of Direct Instruction, emphasizing the careful sequencing of skills focusing on student success and mastery, high engagement, inclusivity, immediate correction and mastery checks to ensure students develop competency. As evidence, the researchers refer to a 1967 study in the USA: Project Follow Through, that investigated various instructional classroom methodologies across 70,000 students in which Direct Instruction "consistently delivered the highest results across a number of categories" (Kim & Axelrod, 2005, p. 112 as cited in McMullen & Madelaine, 2014).

The literature provides evidence to argue the merit in both a teacher centered *and* student-centered approach, with generally more attention and gravitas given to the student-centered approach. However, teachers tend to shun Direct Instruction, possibly influenced by the 'sage on the stage versus the guide on the side' (King 1993) theory. King's theory suggests that the improvement to education has arisen because teachers have taken a more guide on the side approach to teaching, involving more active engaged learners who take responsibility for their learners and the teacher's role is to guide rather than deliver knowledge (Rachelle, 2011). Curious to dig deeper, and explore both student and teacher perceptions of Direct Instruction the author conducted a study, the results of which are outlined below.

Conclusions

Methodology

This is a mixed methods study using both qualitative and quantitative data, in order to get a fuller picture of the phenomena being researched. The researcher's own students were asked

to volunteer to participate in this study, after class time. Students were assured that all responses were confidential and not related to the course of study or had any grade bearing. Student perceptions were collected through surveys with a mix of both quantitative and qualitative questions. Descriptive statistics was used to describe the features of the quantitative data considering mean with graphs to illustrate. Teachers were invited from the authors department to participate in interviews. This qualitative data was coded looking for patterns and frequency to find significance and meaning from the data. Teachers were assured confidentiality and ethics approval for this research study was received from Dubai University.

Survey: Student Perceptions of Direct Instruction

A total of 14 questions comprising eight agreement questions and four open ended opinion questions are utilized in this student survey. Questions are adapted from the work of Murphy et al., *Teacher-Centered versus Student-Centered Teaching* (2021) as this is freely available, validated and informed by theory. Twenty four students responded out of a class of forty.

Quantitative Questions

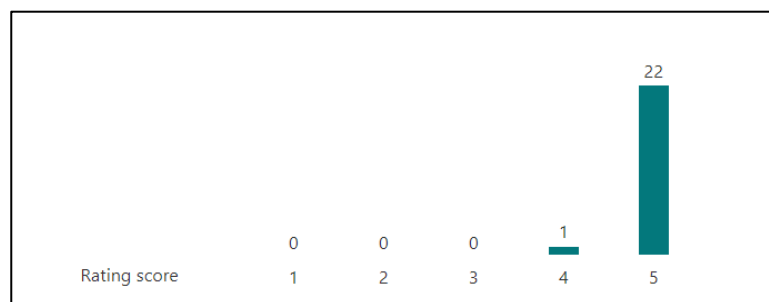Question Two asks students to rank: *I learn best when the teacher explains things to me*

Figure 3: Students' rating of effectiveness of teacher explanations for learning

Ninety nine percent of students ranked 5 for this question showing a very high agreement and indicating that, according to these learners, they learn best with teacher explanations.

To contrast and verify the findings from question #2. Question Three asks students to rank: *I learn best when I understand things on my own*
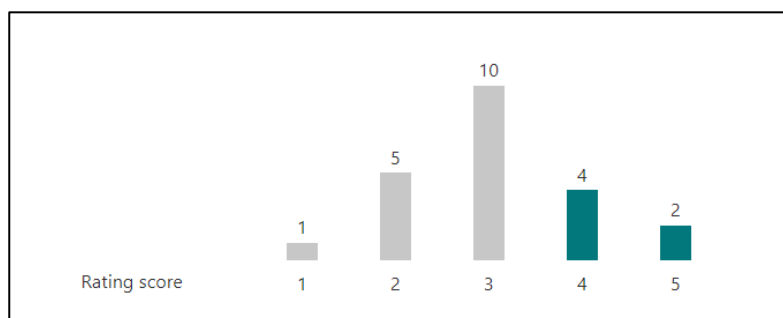

Figure 4: Students' rating of effectiveness of independent learning

Only twenty seven percent of students ranked 4-5 for this question, with the majority ranking at a 3, showing moderate agreement. This confirms the results from question two that these

students learn best from teacher explanation, especially when compared to discovery type learning where students learn on their own (Ozdem-Yilmaz, & Bilican, 2020).

To further validate this key question, Question Six, asks students to rank: *the teacher explaining the lesson,* as a teaching method they prefer, alongside other methods.
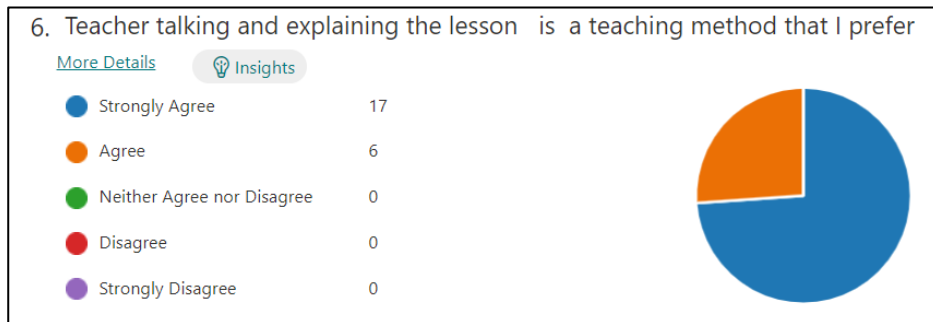

Figure 5: Students' rating of effectiveness of teacher explanations when compared to other methods

Findings show that 74% of the participants strongly agree, and 26% agree that their preference in lesson delivery is for the teacher talking and explaining the lesson. This corroborates the findings in questions two and three, and provides robust evidence to indicate that these students prefer teacher explanations to inquiry based/independent type work.

To illustrate the strength of responses in question six it's important to view it in comparison to the alternative questions. Questions five to nine ask students to state their preference to different teaching and learning approaches and activities, including:
- Group work
- Flipped and independent work on Blackboard Learn
- Working with a partner
- Working on a task in class such as reading or writing
- Watching a video lesson
- Question six teacher talking and explaining the lesson.

Note, each task is ranked individually and participants are **not** asked to compare. Comparison is done by the researcher.
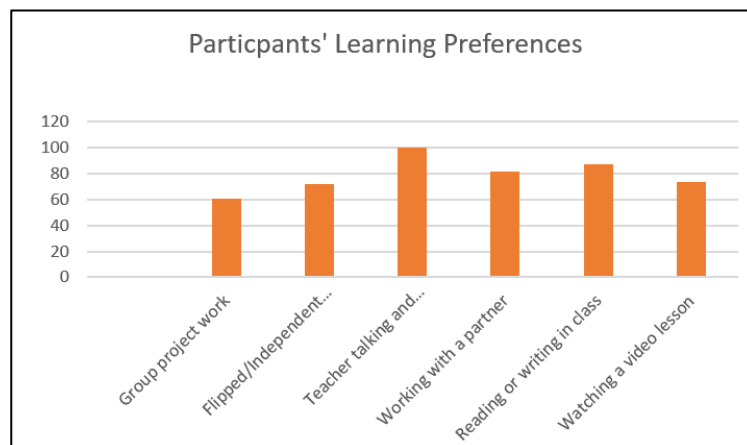

Figure 6: A comparison of learning preferences

It's interesting to note here that while 100% of the participants ranked teacher taking and explaining the lesson as a preferred way to learn, second to this is reading or writing in class, with 87% of the participants in agreement. Group project work scores the lowest here at 61% of participants in agreement.

The pattern that is emerging here is that students indicate a preference for more passive teacher led classroom activities, compared to, for example, the flipped work which is completely independent, scores at 72% agreement.

In hindsight there are some limitations to this survey and this could be improved on for further study. The researcher purposefully avoided the words teacher centered/Direct Instruction and student centered/Indirect Instruction as they are unfamiliar to these participants. Instead the researcher aimed to categorize activities into either direct or indirect learning which on reflection is problematic. Teacher talking and explaining the lessons obviously transfers to 'teacher led'. While literature categorizes reading or writing in class as again teacher led and fairly passive, this is ostensibly context and personality dependent, and many teachers would argue, rightly so, that their reading and writing lessons are dynamic active student-centered learning tasks. Herein lies the problem, it is difficult to know which end of the spectrum these participant's reading and writing lessons fall in, although a guess would suggest they lean toward the former, teacher led, as these students' lessons are often prescriptive and exam based. On the other hand, group work and flipped work, which obviously sit at the student-centered end of the learning spectrum are clearly indicated as the least preferred, providing more evidence that these learners prefer a teacher led classroom experience.

The findings to the group work question is further corroborated in the opinion question #13: *Does working together in your group help you learn? Why or why not?* Of the 23 responses, nine indicate that no, or only sometimes group work helps them learn. This indicates these findings are sound.

Qualitative Questions

Four questions sought to elicit students' opinions on their preferred learning styles – be it direct or indirect teaching.

Question 10 corroborates the findings from questions 2, 3 and six above in asking students: *Does the teacher explaining the lesson to you help you learn? Why or why not?*

All 23 responses, i.e. a 100% of participants responded yes to this answer with the largest reason cited as: it helps me understand, responses also indicate that this is preferred to independent learning with responses such as:
> better than depending on myself"
> difficult learning by my own"
> the teacher knows best"

This confirms that these participants prefer direct teacher led instruction.

Questions 11 digs deeper into this by asking the participants exactly *what* it is that teachers do in the classroom that helps or hinders their understanding. Explanations and repetition and

review were the highest frequency answers given as the activities teachers do that most help with their learning. No feedback was given as to what hinders learning.

> They explain slowly and repeat in a gentle voice.
> they explain using example and story and talk nice interesting way
> They listen me and they explain in a simple way in simple words and make review the next class

This aligns with the literature where repetition and clear teacher instruction are viewed as pedagogically effective classroom practices (Andergassen et al., 2014; Scrivener, 2005). Indeed the basis of the spiral curriculum stems from repetition and with it a deepening learning from each cycle of repetition (Shang, 2009). Again, this confirms that these learners prefer explanation and 'being told' to discovery type learning.

Question 12 asks about project work as this directly aligns to indirect or student-centered learning. Out of 21 responses, five participants indicated they did not like project work, only two gave reasons as it being 'extra work' or 'not useful'. This equates to around 76% of participants liking project work as an effective means of learning, reasons given being that

> it helps us research and learn more
> by doing the thing by my self it will stuck in my head
> because i can summarize all what i took in the course

This suggests that despite showing some preference for teacher led instruction, project work is seen as effective by the majority of the students. This may indicate that while teacher led instruction is seen as valuable in introducing the learning point, project work may be an effective practice activity.

Question 13 asks about group work and seeks to confirm the quantitative question above about group/project work which scored 60% agreed: *Does working together in your group help you learn? Why or why not?*

Fourteen of the twenty three responses, or 61% indicated, yes, they liked group work, this correlates with the quantitative answers above. Reasons given were that they can help each other. Five students said they did not like group work as students did not do their share of the work and four students were 'on the fence' stating sometimes they like group work. This illustrates that there is a slight lean towards group/project work, however it is not significant.

Summary Survey responses

The survey responses display a significant preference for learners towards direct teacher led instruction and show reliability in the triangulation of answers. This may be due to the educational background of these learners often being from government schools where rote learning and teacher are the norm (Bristol-Rhys, 2010). It is worth noting though that teacher led does not correspond to passive in this instance, as an experienced educator in the region, the researcher has moderated many a lively discussion, and managed hundreds if not thousands of classroom tasks involving active participation which these learners have partaken in enthusiastically. What the findings in this survey simply tell us is that these students learn best, particularly in the introduction of new material, through being told, through stories, through lectures. That learning can then be cemented through practice

activities, but given a choice between independent discovery learning and simple, interesting explanation that's repeated, that is their preference. Rosenshine (1995) argues this initial guided practice is key to learning and that new material needs to be *presented* in small easy to assimilate steps. It's our job as educators to honour that.

Interviews: Teacher Perceptions of Direct Instruction

Q. 1What is your understanding of Direct and Indirect Instruction also known as teacher and student centered?	teacher is actively, teaching and explaining teacher centered -negative connotation students are passive. teachers, doing work, rely on one person teacher is directing the group of students. students centered would put more of the responsibility on the student they need to generate knowledge and use the knowledge bounce ideas off each other, learn skills of communication and collaboration, that's what the real world is all about. they're speaking to each other, they're collaborating, they're engaging.
Q.2 What is your teaching style one or the other or both?	my approach was a lot more teacher centered, because of the type of students that they are, that I would adjust it. I do both. I'm somewhere in, in, in the middle I'd prefer to get beyond reductions and binaries Prior to COVID a lot more student centered, a lot more letting them do a lot more talking. My preferred style would definitely be student centered During the COVID time, because of the limited access I've changed my approach, make sure that the students get enough content, so a little bit more teacher led it depends on the group of students I have to be adaptable - it's not as much teacher led
Q3: How did you develop your teaching approach?	I put myself in the shoes of the students and, understand how they would feel and what hey would need. I don't think my philosophy is fully conscious, and there are personal, , variables in it. the learner centeredness fits in with my wanting to listen happy to listen to that., it's hard for me to kind of separate, who I am and the methodology, When I was at school, it was all student led. It was all, collaborative activities. From very early age, I've been in that kind of mode

	own experiences from the teacher training it's my work ethic
	the last 18 months has made it's different had to look at what works best for different groups and you have to adapt
Q4: Response to research in support of Direct Instruction?	we have pendulum swings and, you know, what's popular and what's not. I understand if we went too far with student centered, you now, and we realize we also need teacher
	link it with human learning.- negative connotation to lecture, if a lecture is standing and talking - misrepresentation of what it can be.a good story could change somebody's life.
	you do need to lecture every now and then, there is a place for lecturing hundred percent agree that it's teacher-based It has to work in tandem. I think. They need that teacher led like a leader, but they need, like you would in a project to be able to work towards showing that you can achieve

The purpose of the interviews was to glean teacher perceptions of Direct Instruction and to identify how their pedagogical stance transferred to classroom practice. Four teachers volunteered to be interviewed. McMullen and Madelaine (2014, p. 143) ask the all-important question around teacher perceptions of Direct Instruction: "*So, with all of this evidence to support DI, why do teachers reject or avoid it*?" They argue that research suggests the educational profession prioritizes inquiry led over Direct Instruction and that this philosophical stance is then adopted by educators. With this in mind, the researcher aimed to capture teacher perceptions to see if they concur with those of McMullen and Madelaine.

Teachers interviewed were current colleagues at Dubai University, a female only tertiary institute in the United Arab Emirates. All teachers were western educated and teaching in the humanities, across subjects as varied as sustainability, research methods and future foresight.

Questions were structured for consistency.

The table below summarizes the answers to the key questions around Direct Instruction. While more discussion ensued, for purposes of brevity this has not been included.

Table 1: Summary Interview Questions and Answers
Key (names changed for confidentiality)

Alice
Robert
Ben
Lucy

Question One seeks to establish a common understanding of the terms Direct and Indirect Instruction. Participants were more familiar with the terms Teacher and Student centered and definitions aligned with established theory with key terms such as 'responsibility, 'collaboration' and 'explanation' used.

Question Two asks participants about their own teaching approach – Direct or Indirect instruction or both. The answers were interesting in their *lack* of uniformity, showing a diversity in teaching approaches both amongst and within themselves. All four teachers spoke

of times where they used one or the other approach. This illustrates that these teachers are not tethered to a particular pedagogy, that they are able to cherry pick when and what approach to use, and they come from an ethics of care (Noddings, 2002) showing concern for the needs of the students.

Question Three asks about the background of these teacher's philosophies, and casts more light on the other questions.

Question Four seeks to establish participants perceptions of Direct Instruction. Contrary to the literature, there appear no negative perceptions of Direct Instruction. What is significant here, and what corroborates the answer to question two above, is that teachers see Direct and Indirect Instruction as working together in a partnership, albeit, with a slight bias towards students centered. An interesting analogy used by one of the teachers is that it's almost a business model, students need a leader (a teacher) but they also need to show they can achieve through student centered activities.

To summarize, teacher perceptions of best practice lean slightly towards a more student-centered approach, this is unsurprising as many of these faculty were trained in this method and two have an English language teaching background. There is consensus in an openness toward Direct Instruction when needed, depending on context such as ability of students. These findings, disagree with previous research, however, and show a more positive outlook towards Direct Instruction with one teacher openly using it, as most fitting to the context of their students, and one being 'in the middle'. Perhaps it is the wisdom of experience that brings this openness, with these teachers having an average 20 years' experience, literature concurs that experienced teachers often carry with them more flexibility than novice teachers (Berliner, 2001). Views are varied as to how their teaching philosophies were formed, citing educational experiences, personality, and empathy for the students as driving their approach. Overall the teacher interviews portray teachers who are mindful of their context, reflective, motivated by care for their students, and overwhelmingly flexible and adaptable. At this stage it's hard to pinpoint whether this adaptability is in their inherent teaching nature or a necessary response to COVID, or perhaps a combination of both. Flexibility is a significant attribute these teachers bring to their teaching careers, as not only does it allow them to remain open to different teaching modalities, it prepares them for the realities of teaching during the pandemic. As Rüütmann and Kipper (2011) claim: " Knowledge of a variety of instructional strategies and flexibility to change them within and among lessons are two of the greatest assets a teacher can have" (p. 60).

Final

This paper has shown that there is a predisposition within education towards a student-centered indirect approach within education, and that this approach while empirically sound, should not be perceived as 'better than' Direct Instruction. There is a plethora of research to suggest that Direct Instruction is based on pedagogically solid footing, and has significant classroom success. The findings from the study in this paper indicate that these participants prefer Direct Instruction as their teaching modality as an introduction to the learning material, although student centered project work is seen as effective practice. Teacher interviews suggest that teachers use a combination of both Direct and Indirect Instruction effectively depending on the context and that teachers have mastered the art of adaptability as a core tenet.

The author would like to suggest that Direct Instruction can effortlessly cement meaning through a powerful lecture, an engaging story, or a teacher's curiosity transferring through to the learners in an insightful explanation. Yes, the teacher is the center here, but does learning happen? Quite possibly yes, and is learning memorable? Quite possibly yes. Importantly, lesson planning is complex and it is not a matter of choosing one approach over the other, Direct and Indirect Instructional approaches work together (Maynes et al., 2010) and this is where their strength lies. This research provides evidence to suggest teachers should consider adding another tool to their teaching repertoire: that of Direct Instruction. The notions of sage on the stage versus guide on the side are based on an outdated false dichotomy that does not serve educational practice; both provide comprehensive models that teachers can, and should utilize depending on their context to maximize student learning.

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