

Supplemental Material S3. Additional quotes supporting each subtheme.

Subtheme	Quotes
Research DTTC is more challenging	<p>SLP_ Joanne: [Talking about regular therapy] You know I do 95% play-based therapy, so it was really tough for us to sit for that long of a time.</p> <p>P_ Ainsley: he's just a boy and didn't want to sit.</p> <p>P_Nicky: when he's starting to get frustrated or something's hard and she may be more encouraging saying, "I know this is tough", or "you're doing really good" or "keep trying"; that kind of stuff. Where with the research, it was less of that, for sure. And just more... I'm blanking on the word I want, not rigid, but very focused and maybe not-</p> <p>Interviewing researcher: Structured?</p> <p>P_ Nicky: Yeah, I think so, I think that's what I'm trying to say.</p> <p>Interviewing researcher: And so, for you the research therapy was more rigid or structured or whatever that word is.</p> <p>P_ Nicky: Yes.</p> <p>Interviewing researcher: Is that a good thing or bad thing?</p> <p>P_ Nicky: That's the part that I didn't like about the research.</p> <p>SLP_ Rachel: [the research team] said yes, yes, you can let them get up and do an obstacle course then come back um you know, to the more clinical like, you know, sterile, what I would call sterile room with nothing out for them to be distracted by</p> <p>P_ Sam: Overall, for us it was it was a challenge the three sessions. The biggest challenge was the fact that the SLP's office is about 30 minutes away from us... it was challenging...I can't believe we actually made every single session for eight weeks, plus the pre-screening stuff plus the evals</p> <p>P_ Ainsley: Because I feel like [in non-research treatment] she'll correct him on a word and then that word's done, you know what I mean it's not like he doesn't focus really on what he's saying wrong like she'll correct him, but it's kind of like move to the next.</p>

	<p>P_ Nicky: [talking about when child was frustrated] When he couldn't get the harder words; where he couldn't get the certain sounds. And you couldn't progress past it, he started to get frustrated and I think that part was kind of tough for him...I even found myself kind of wanting them to just move on.</p> <p>SLP Rachel: Not all kids would complete as many blocks, with as little reinforcement, as I was able to give him.</p> <p>P_ Nicky: I think one of the big things for him is not having that gross motor movement with it. Because the majority of the time he was sitting, and I can't remember, the few times that I watched, I don't think they took many breaks to get up and walk around or do some jumping or some gross motor... it probably would have helped to stop and do some kind of gross motor activity. That's moving or jumping or bear crawling or whatever it may be.</p> <p>SLP_ Joanne: We're playing more if we're not doing research, I think.</p> <p>P_ Ainsley: Like in [his non-research therapy] he's playing or he's coloring and she's talking and correcting him. So, he's kind of doing something, that his attentions always on something, versus the study where he's literally sitting in a chair staring at [Research SLP].</p> <p>P_ Nicky: The part I found challenging is that he's a four-year-old little boy who it's hard to sit for an hour. And a lot of our other therapy revolved around play and games and arts and crafts, and so I think that was the challenging part.</p> <p>SLP_ Joanne [talking about the research client who she had previously treated]: Before, you know, I didn't tell him all the time when he was doing something wrong and doing it that way for, so, for 24 sessions, he got very frustrated.</p> <p>SLP_ Joanne: With research...it was more regimented than what I usually do during clinic therapy time.</p>
Research DTTC is surprisingly effective	<p>SLP_ Rachel: You know. I have provided DTTC I use the DTTC in my practice, but I don't do it as strictly as the research is so, but it was amazing in doing it that way, how much progress he made in just a short amount of time.</p>

	<p>Interviewing researcher: Okay. And now that you've seen it being done, you know.. what do you think of DTTC treatment?</p> <p>P_Ainsley: I love it. I wish I could do it all the time.. I mean the...mean the outcome is- is unbelievable.</p> <p>SLP_ Joanne: progress was amazing</p> <p>SLP_ Rachel: Um I mean I was just hoping for progress [for the child during the study] ..., I did not think he would make as much progress as he did. And his mom was very excited too because other people have noticed the amount of progress he's made. Yeah, it was awesome.</p> <p>Interviewing researcher: 'What do you think was helpful for [your child]</p> <p>P_Ainsley: Honestly, I think repetition, the more he said it, the better it was.</p> <p>SLP_ Joanne: We've not focused so hard, I guess, I mean, just sitting and working for that 60 minutes, for those 24 sessions, he's improved tremendously in the spontaneous aspect. I mean, greatly. He knows all our words, and he'll tell them to you. I guess just that motor planning has really helped him.</p> <p>Interviewing researcher: Mmm. And were you predicting that that's how he would have gone with 24 hours of research type DTTC?</p> <p>SLP_ Joanne: Well, not as quick. He really picked it up a lot quicker than I thought.</p> <p>SLP_ Joanne: when I said things to him and would say, 'What do we like to do in the afternoon? Eat a snack! That was one of our words, snack.' I mean. It is just, like, a lightbulb with him. It's really amazing how he really, when he says these words that we've worked on, you can see him focusing. And really knowing what he's doing right and what it's doing wrong and that was one thing he learned through this process too. When we would get further on, he would say something, and you can see it in his eyes and I'd say, 'That's not right is it?' and he'd say, 'No.' But before this, he didn't know if it was right or wrong.</p> <p>Caregiver: P_Ainsley: He likes that he could say the words at the end of the week</p> <p>Caregiver_Nicky: I thought it was good, for the most part. I thought the drill and the repetition was great for him.</p>
Clinical is practice	<p>SLP_Emily For me it was just like not my jam. And it wasn't the kid, the kid was lovely, it was really like they have to be staring at my face for like basically 60 minutes, like, [I'm] not a fan!</p>

preferable to research	<p>P_ Ainsley: I think his normal speech therapy... I think he goes into it a little bit easier because he knows it's not as structured. You know, we go into [Research SLP's], we sit down, and we mean business, you know...you repeat me and that's it, you listen to what I say, and then you repeat me.</p> <p>SLP_ Joanne: We were all glad it was over, even the grandma.</p> <p>SLP_ Joanne: Normally, we do themes, a weekly theme and so it was hard to incorporate those things [in research]. But, I think the big thing was just not having playtime. That's usually what I do. I'm not a sit down show picture cards all day, we play and I incorporate what sounds we're working on, you know through play, so that was kind of hard sitting still.</p> <p>Interviewing researcher: Yeah, yeah, and did you feel it was hard for you as well as hard for [child]?</p> <p>SLP_ Joanne: Oh yes, oh yes. Definitely hard for him, but it was hard for me, too, because I wanted to-- you know, take a break and just play</p> <p>P_ Nicky: To be honest, I was glad when it was over. I was ready to go back to the more- I mean I don't even know if you can call what she's doing play based, but more of the play therapy. I think overall that keeps him more engaged.</p> <p>SLP_ Rachel: So I usually try to pick a book based on target word and then I get the target word, while we're doing it so like for instance, I had a kid today, and one of his target words is 'me' so we read "Brown Bear, Brown Bear" and the target is "me" on every page. So, it's not necessarily a block in that he's practicing in a row. But every on every page he's only saying "me" so it's a block in that sense...so there's a block there but it's just while reading a book.</p> <p>Interviewer talking to P_Sam: Some people have told me how they felt when it finished, how did you feel when it was done?</p> <p>P_ Sam: Um, we were glad</p> <p>Interviewer talking to P_ Ainsley: Was [child] happy to attend the sessions?</p> <p>P_ Ainsley: He didn't complain about it...The first couple times he was great and then, when he's like 'I have to go again?' We're like, you know, 'yep you got to go, this is what you gotta do'.</p> <p>Interviewing researcher: Yeah OK, and what do you think that that reluctance in him was about?</p>
---------------------------	--

P_Ainsley: I'm going there and just sitting, you know I mean she had like little things to do in between, but I feel it's you know it's a lot of repetition for a little one to sit there; granted, he needs to do it, so he didn't have a choice...I think an hour is good, but the same time, I feel like when they're younger their attention span, like, you could tell by like, you know, half hour, 40 minutes, he kind of had enough of it, you know what I mean? Like, he would go off more, he wouldn't pay attention, he wouldn't look at her so. Sometimes I think it's too long.... I just think you know you, he's just a boy and didn't want to sit.

P_Nicky: I feel like part of it is cultural because in the south, I feel like you are really encouraging, like "you're doing a good job"; that kind of thing. And you could tell a shift between the research there between, what we were used to, I guess and not that he needed it, but I missed the part where she was like "I know that this is tough, but you're doing a great job". "You can you can do this" you know; the pep talk of it.

Interviewing Researcher: Anything else that was different about the regular speech therapy and the research therapy?

P_Nicky: I think one of the big things for him is not having that gross motor movement with it. Because the majority of the time he was sitting, and ... I don't think they took many breaks to get up and walk around or do some jumping or some gross motor. He's a sensory kid too. He's a sensory seeker, so I feel like sometimes when he was having- was getting antsy or having a hard time, it probably would have helped to stop and do some kind of gross motor activity -moving or jumping or bear crawling or whatever it may be.

Interviewing researcher: Yeah, okay. And in his regular speech therapies, is that what they would have done?

P_Nicky: Oh yeah.

P_Nicky: The only other thing is, I think he would probably perceive the regular speech therapy as more fun in his eyes because they did more games and they drill in with the games or arts and crafts. That kind of thing.

I think he'd probably perceive that as more fun versus just sitting at the table while doing just drill activities.

SLP_Rachel: Um we have a gym like a sensory gym and a swing, so I do a lot of my treatment on the swing, so I might do a block and then they get a bunch of pushes but it's also too distracting of a room to use for research... I can get lots out of kids because you know I can put them on the swing with several different swings so depending on what they need I can use that.

	<p>Interviewing researcher speaking to SLP Emily: Yeah okay, and if it hadn't been a research, study, you were saying that you would have to switched up his targets, you would have changed to things that he was mostly stimulable for once you realize that those alveolar sounds were really tricky?</p> <p>SLP_Emily: Yeah, yeah and I feel like he would have got more out of the research study. So instead I'm not going to say he didn't but considering, he has you know, three hours a week for eight weeks the progress he made as an overall system wide change is not at all what I would have thought it would have been what it should be, had I leeway to do what I think we should have been doing.</p> <p>SLP_Rachel: I have a lot of complex kids that I mean, and I mean we have language goals, so I can't dedicate an entire, I mean I can, but I don't generally dedicate an entire 30 minutes to just their speech goals we're also working on language goals, maybe some pragmatic goals.</p>
Power differential exists between researchers and clinicians	<p>SLP_Emily: I think I was so overwhelmed with like 'I've gotta learn the DEMSS, I've gotta learn the LAMS, I've got to make sure I do the DEMSS to fidelity, I've got to make sure I know how to score it, and I've got to make sure you know how to score the LAMS, I've got to make sure my audio is working, I've got to make sure that all this gets uploaded where they can hear it, you know, got to make sure that I have all the forms, and I've got to make sure I did all the tests</p> <p>SLP_Rachel: I didn't like that people are watching me, especially people that I've read their research because you know, as a clinician who's worked for that long I don't have people watching me provide therapy, so it was a little nerve wracking in the beginning, but I felt clinically since I have been practicing for so long, it was a nice change and nice challenge to know that, like, I had to be very specific and everything that I did um so I thought clinically and for professionally it was a good challenge for me.</p> <p>SLP Emily: And because you already feel vulnerable...like, as a clinician I felt super vulnerable to have researchers like watch my therapy.</p> <p>SLP_Joanne: It was stressful. It was not... easy. It was a lot [Describing the overall experience of participating in the research study]</p>

SLP_Leanne: Yeah, I guess just remembering that there's a lot...The clinicians going into a research DTTC session have a lot of stressors, right? So I just want to like, I want to remind you all about that, because you're not the ones doing the therapy, and I don't want anyone to forget.

SLP_Emily: [Talking about what it would be like if she had viewed videos of the researchers that included mistakes] It just disarms you and you're like okay, these are just people to they're not the almighty researchers that never mess up and I'm a lowly clinician

SLP_Rachel: I have felt a little more on edge that I was going to screw something up when doing it this way, doing research, because I know it's important as opposed to you know if I mess up in my own therapy session yeah the kid might not make as much progress that day but you know, we can keep going like, I don't know, I felt more pressure on me and I feel like I'm screwing something up.

SLP_Emily: His...change is not at all what I would have thought it would have been what it should be, had I leeway to do what I think we should have been doing.

SLP_Emily: An hour is brutal for me, especially when all you can do is work on five words and you're not allowed to cue anything else or work on anything else.

SLP_Joanne: if we're in the clinic and it's just normal DTTC, we're like today, we did-- we were in the tent and we did our two words, two, three words in the tent and worked really hard and did the, you know, the prosody, all the research DTTC but then my child got antsy so we got out, we played and we stopped specific DTTC and we just worked on our sounds and words. With research, I couldn't do that.

SLP_Emily: There were a handful of times, where he was like, especially toward the end, when we're just working on the same words over and over he started being like "maybe we can work on this word, because I need help with this, maybe we can..." I'm like "Yeah, I would love to work on another word with you" but like we can't.

SLP_Rachel: I felt a little like my hands were tied, so we had three sessions, I was not allowed to change those targets within those three sessions like you can only change them on the weekly probe. And after maybe two of those three sessions, he got it. And I really didn't need to keep practicing it, but I had to, because, like, I could have moved it to maintenance and it would have been fine, but I had to

	<p>keep practicing because I couldn't I had to wait till the following week to pick a new target. I don't know if the future clinicians can be given a little more clinical judgment about changing those targets</p> <p>SLP_Leanne: It was definitely a huge honor for me when [Researcher] posed the opportunity. You know I never thought of myself as being able to do something like that, you know.</p> <p>SLP_Joanne: So, I've enjoyed it. I've been stressed. I'm glad it's over.</p>
Research participation led to new learning	<p>Interviewing researcher speaking to SLP_Joanne: And what about the feedback that you would give in a normal [non-research] DTTC compared with research? Same or different?</p> <p>SLP_Joanne: *laughs* Different. I'm learning to actually tell them more what they're doing wrong. It was really hard sometimes. The research has taught me not to say 'Good try! That was really good try! Okay let's move on.'</p> <p>SLP_Rachel: And I think being so strict in the protocol really made the difference made a difference, and you know I realized, I was making some I don't know if mistakes, is the right word, but I wasn't adding in or practicing the prosody as early, you know, ...making sure that was incorporated from the very beginning, I think, made a difference for him as well and that actually made it more fun for him. He really liked doing different voices and doing different pitches and like he would tell me what he wanted to do. "Let's do a Daddy voice, let's do a princess voice, let's be sad." Like, I think that made the hard work even more fun for him.</p> <p>SLP_Joanne: you do prosody every step now. I didn't know that. You know, I thought it's great because I feel myself doing it more with my clients, whereas before I didn't do as much of that. It makes a big difference you know</p> <p>SLP_Emily: The positives are that I definitely learned how to do the DEMSS which I don't feel like I would have known how to do, unless I had formal training.</p> <p>SLP Emily: I'm glad I had people giving me feedback and telling me what to do. So I loved that, I love to that I know DTTC to like research fidelity now so getting that training, I guess, like pushed me professionally um so I loved that. Um getting to work with researchers and just the research side</p>

Caregiver_Nicky: A few times my mother-in-law said "I think this has been good to prepare him for pre K for what he's starting this year". Because it did make him sit and focus for an extended period of time. So I see some big positives too.

Interviewer speaking to SLP_Rachel: And so, tell me, if the research DTTC was different to the regular DTTC, how did you as a clinician feel delivering research DTTC?

SLP_Rachel : I actually really liked it. I thought for me I've been practicing for almost 20 years,... it was a nice change and nice challenge to know that, like, I had to be very specific and everything that I did. So I thought clinically and professionally, it was a good challenge for me.

Interviewing researcher talking to SLP Rachel: Will you make any change to your regular DTTC based on your experience of doing research DTTC?

SLP_Rachel: Yes, and I already have with a few clients because I think I'm just more clued into how many targets I get. I've always gotten a lot of targets, but making sure I've gotten a certain amount of targets I'm more cued into the prosody at an earlier stage

SLP_Joanne: You know, so I'm really getting better about specifics, telling specifics so that's helped me and I've really enjoyed that. I mean it's sad sometimes when I'm... like 'No, that's not right. We've got to put your tongue here' you know...It's helped me, it's improved that, improved me, I think.

SLP_Joanne: I've always done, the 'look at me,' but I think I do it more now. And I think I'm, you know, focused more on that, but definitely the prosody stuff. I didn't do it near as much. And now, we do a lot more of that

SLP_Rachel: And I think being so strict in the protocol really made the difference made a difference, and you know I realized, I was making some I don't know if mistakes, is the right word, but I wasn't adding in or practicing the prosody as early, I benefitted from the researcher-led way of delivering treatment

	<p>SLP_Leanne: I feel like a more well-rounded clinician kind of, you know, like so much of what we do in the speech room, so to speak, is because of research, you know. And so, being part of that piece of it, and really understanding that is huge. It's empowering, you know.</p> <p>SLP_Leanne: And in the end she taught me all this DTTC and all this great stuff. So I was very, you know, honored and pleased, and I would do it again</p>
--	---