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Abstract

This article discusses the inquiry a multi-professional team engaged with at a center school in South West Florida. The team came together to better understand and make pedagogical changes to more fully engage Ferdy, an eight-year-old boy with complex learning disabilities. The inquiry lasted six months and centered upon the Engagement Profile and Scale (EPS) process. Ferdy's mom was part of the team and gives permission for Ferdy's real name to be used and his pictures as a demonstration of her pride in his growth. Below is an initial description of Ferdy by his teacher.

Ferdy sits on the soft play cushions. He rocks back and forth while lying on his back, looking intently at saliva hanging from his finger. He repeatedly moves his fingers into his mouth to collect more saliva. When an adult approaches him he pushes them away with both hands, returning his attention to his

Teacher Inquiry

The benefit of teachers inquiring into their own practice is well established (Jones, Whitehurst & Egerton, 2012). The need for collaborative and multi-professional inquiry when working with learners with very complex learning needs is highlighted by Carpenter, Egerton, Cockbill, Bloom, Fotheringham, Rawson, and Thistlethwaite (2015). They affirm the need for robust inquiry into classroom practice because the pedagogical challenges posed by students are great indeed. Inquiry focused on the enactment of teaching helps teachers move away from usual routines, engage with new ideas, and take risks in their pedagogical practice (Leat, Lofthouse & Reid, 2013). This article discusses such a process and is co-written by the school based research team. The inquiry team adopted collaborative video analysis and observation as their inquiry tools.

Learners with Complex Disabilities

Complex disabilities refers to a learner with sustained and multiple learning issues. In relation to the IDEA (2004) classification system, learners who may have complex disabilities are spread across multiple disability categories that include multiple disabilities, (i. e. intellectual disability, speech and language disorders, developmental delay, and autism) (USDoE, 2012). Indeed, 2014 data from CDC reflect an increase in identification of students with autism who have additional and co-existing intellectual disabilities (CDC, 2014). Carpenter et al. (2015) believes these learners challenge current pedagogical practices and present personalized pathways to learning school teams must respond to. It is argued that teaching learners with complex disabilities cannot be approached through a single pedagogy (Silverman, Hong, & Trepanier-Street, 2010) and that the integration of individual learning profiles and curricular demands requires a holistic and comprehensive approach that mirrors the complexity of pupil needs (Ryndak, Ward, Alper, Storch & Montgomery, 2010). Clearly, teaching this group of learners requires that teachers have a sophisticated pedagogic knowledge and skill base.

Engagement in Learning

Engagement in learning activities is the key factor in acquiring knowledge and skills (Iovannone, Dunlap, Huber & Kincaid, 2003). Teaching involves the active engagement of all students by integrating students' strengths, interests and needs in the learning environment (Young, 2010). Young (2010) stresses that learner engagement in learning is closely linked to student autonomy with choices and responsibilities. Fredericks, Blumenfeld, and Paris (2004) add that engagement is characterized by meaning to learners with a range of supports to enable successful participation. Teachers understand the importance of students having fun and experiencing positive feelings about the experience and its outcome. Indeed, every student, regardless of ability can have fun and achieve success in their learning.

For learners similar to Ferdie, it is often challenging to identify strengths when learning issues are so overwhelming. Teachers of students with complex disabilities share the pedagogical challenges involved in the facilitation of the intellectual engagement and communication of their students (West, Jones & Stevens, 2006). Assistive Technology (AT) and Augmentative and Alternative Communication (AAC) play important roles in teaching and learning for students with complex disabilities.

Multi Professional Working

Multi-professional teaming can be defined as “Professionals from different disciplines who work towards the same goals. [When this happens]... the child’s needs may be met more effectively” (Strogilos, Lacey, Xanthacou & Kaila, 2011, p.799). Such teaming has been shown to be a crucial factor in effective teaching and learning (Cushing, Carter, Clark, Vanderbilt & Kennedy, 2008) and has been shown to increase the quality of educational programs for students with challenging and complicated learning profiles (McClure & Lecouteur, 2007).

The team around Ferdy chose to engage in a collaborative inquiry project focused on joint assessment, joint planning, and joint intervention to contribute to the increased engagement in learning of Ferdy. They adopted the Engagement Profile and Scale (EPS) collaborative tool to focus their analysis of Ferdy’s engagement in learning.

Engagement Profile and Scale

The Engagement Profile and Scale (EPS) emerged from a large-scale research project in the UK (UK Complex Disabilities Research Project, 2011). The Engagement Profile and Scale (EPS) is a classroom resource, which enables a multi-disciplinary team to collaborate, analyze, and develop greater engagement in learning of a student with highly-complex learning needs. The EPS focuses on a student’s positive engagement in learning and creates a personalized appreciative analysis of that engagement. The EPS prompts student-centred reflection on a four-minute video that depicts the highest engagement from the student. The video represents any activity where the student engagement is self-initiated and positive.

Seven indicators make up the EPS, and these are illustrated in Table 1, which also includes brief working definitions of the indicators. It is acknowledged that, for individual students, the indicators may present differently. The table also illustrates emerging student focused questions that helped the team inquire into Ferdy’s engagement in learning.

Table 1: Engagement Profile Indicators, Definitions and Arising Student Focused Questions

EP Indicator	Brief Definition	Student Focused Questions
Awareness	First stage in the process of learning. The consciousness or recognition of something.	<i>How does this student demonstrate awareness of the learning task?</i>
Curiosity	The need, thirst or desire to explore, know about or learn	<i>How does this student display curiosity within the learning task?</i> <i>What arouses their curiosity within the learning task?</i>

Investigation	A detailed or thorough inquiry or systematic examination	<i>What exploratory behaviours does this student use when investigating a learning task?</i>
Discovery	Something previously unknown or recognised which is located and revealed – whether by intent or chance	<i>How does this student demonstrate discovery within a learning task?</i>
Anticipation	Expectation arising from foreknowledge; predicting or feeling something is about to happen	<i>How does this student demonstrate anticipation <u>within</u> the learning task?</i>
Persistence	Continued effort; perseverance; determination; firmness of purpose; refusing to give up or let go;	<i>How does this student demonstrate persistence within the learning task?</i>
Initiation	Taking the first step or setting in motion; beginning or originating an event; taking the lead	<i>How does this student initiate within the learning task</i>

The EPS has a rating scale that gives a general idea of the level of engagement in a particular indicator. Table 2 illustrates the Engagement Profile Rating Scale.

Table 2: Engagement Profile Rating Scheme

0	1	2	3	4
No focus / Inattentive / unresponsive	Low and minimal levels of engagement with the activity with some evidence of awareness	Fleeting and random / emerging but unpredictable engagement with the activity	Engagement with the activity for the majority of time	Engaged fully for the full duration of the activity

Once the EPS is complete, the team begins to plan activities that integrate the insights garnered from the EPS in order to maximize student engagement. The EPS is repeated regularly over the course of a school year.

Through the UK research project, the EPS was trialed across the UK and in schools in Eire, the United States, and New Zealand. There was strong agreement that the EPS positively supported detailed assessment and planning that led to increased levels of student engagement for students with complex learning needs (Carpenter, et al. 2011a).

Implementing the EPS with Ferdy – The Inquiry

The team of professionals surrounding Ferdy came together in a collaborative inquiry project that employed the EPS with the purpose of exploring different ways to engage Ferdy in his learning.

The School

Ferdy attends a center school in South West Florida that serves students aged 4 to 22 years with a wide array of disabilities ranging from moderate to severe/profound in complexity of needs. Approximately 300 students attend the school. Each classroom has one teacher and at least one paraprofessional. Services such as speech/language therapy, occupational therapy, physical therapy, vision, and hippotherapy (horse therapy) are available.

The Team

The team included the classroom teacher, a Physical Therapist, Speech-Language Pathologist, Occupational Therapist, another ESE teacher, Ferdy's mom, and a University of South Florida (USF) professor. Ferdy himself was present during the meeting that occurred at his house. He was aware of team members, smiled and interacted with each team member, especially his teacher. The professor from USF was an international advisor on the UK research project that developed the EPS.

Ferdy

Ferdy has a diagnosis of Pallister-Killian Syndrome. He receives services under programs for students with Intellectual Disabilities, Speech and Language, and related services of Occupational and Physical Therapy. Ferdy presents as an extremely passive learner who requires maximal physical assistance for all self-care and classroom routines – something he often reacts negatively to. During the school day, Ferdy frequently engages in repetitive behaviors, such as slapping his chest or pulling saliva from his mouth and moving it in front of his eyes. Attempts to redirect him are usually unsuccessful. He shows interest in familiar people by standing or sitting close, smiling and tilting his head, while looking with a sideways glance.

Ferdy presents as a learner who frequently avoids teacher-directed activities by turning away, whining, and resisting attempts to engage him. He likes to stay close to the water or sand table, but his repertoire of actions is usually limited to hitting the surface repeatedly with one hand. He also taps a musical cookie jar when it is placed within his reach, but shows minimal interest in other toys at school. He is physically prompted to bounce or swing on playground equipment, but cannot initiate these movements by himself.

His Individual Education Plan reflects the need for development of skills in several areas:

- Physical skills to increase independence include walking without falls for longer distances and scooping food from a dish.
- Communication skills include increasing eye contact and the use of a picture exchange system or switches to

request a desired item from a field of two choices.

- Ferdy’s acceptance of physical prompting to support academic learning activities.

The Inquiry in Action for Ferdy

The inquiry team met monthly with eight meetings in total. Six meetings were held in his classroom after the school day ended. One was held at Ferdy’s house and one was held at a team member’s houses. Table 3 gives an overview of the inquiry meetings.

Table 3:Engagement Chart

Engagement Indicators	Score (0–4)	What happened? What happened / what didn't happen and why?	Next actions What will I do next time and why? How will I make the activity more appealing (see Inquiry Framework)?
Awareness			
Curiosity			
Investigation			
Discovery			
Anticipation			
Initiation			
Persistence			
Total score			

TOTAL engagement score:

No Focus Sustained	Emerging / fleeting	Partly Sustained	Mostly sustained	Fully																								
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

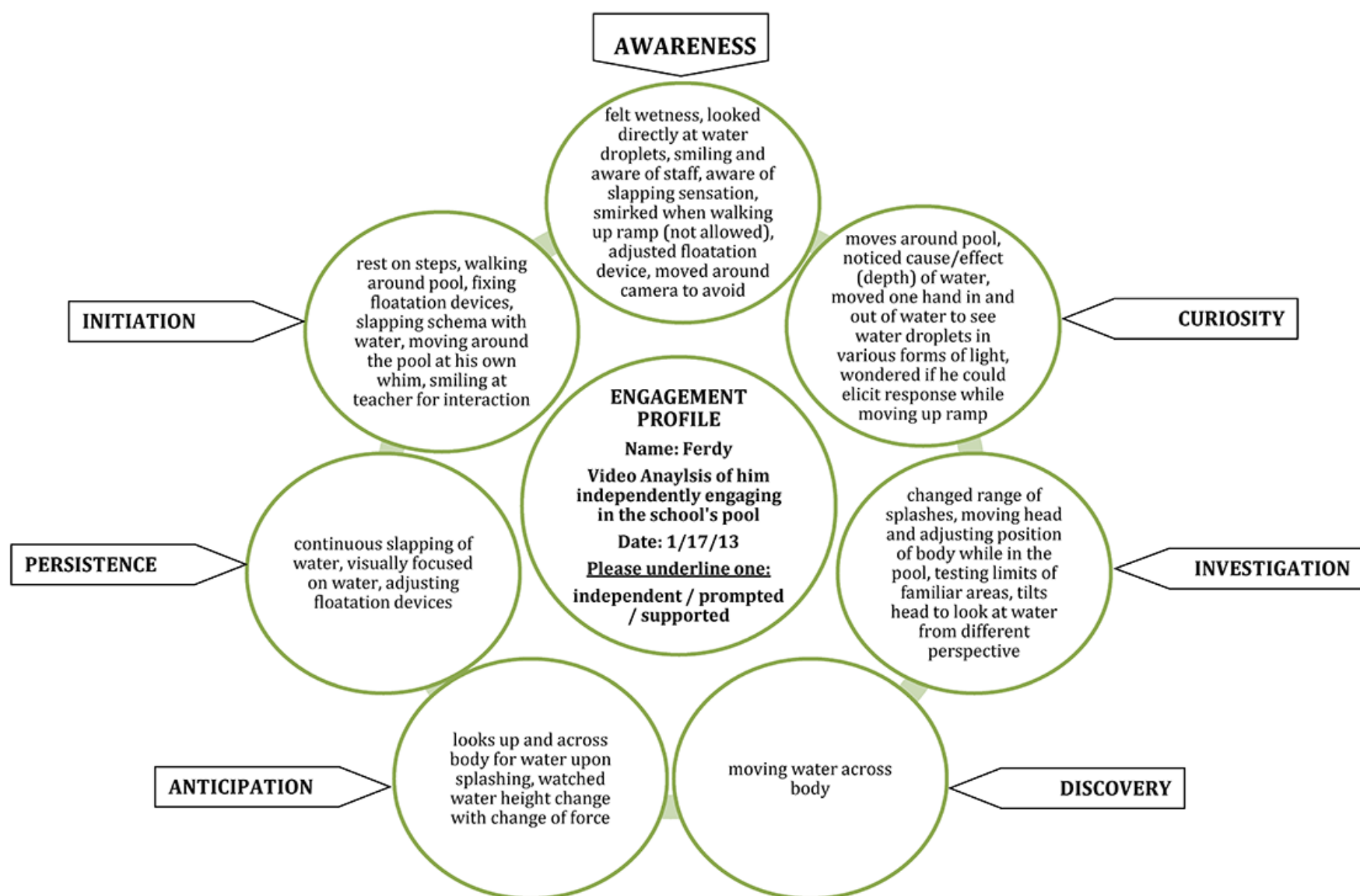
At the first meeting, the required four-minute video of Ferdy was discussed and his teacher shared her concerns that there was not a single classroom-based activity Ferdy would engage in for four minutes, let alone independently. He would, however, actively participate independently within their school’s heated, indoor pool. This is where the first video was made.

Video 1

The video showed Ferdy independently playing in the school's swimming pool. He walked chest deep in an area of about six feet in area. He continuously slapped the water with his left hand and sometimes with his right. He did this without verbal, gestural, or physical prompting. He varied the height of his hand slapping and appeared to watch the water falling off his hands and arm. This activity was sustained for the four minutes.

During the second meeting, the team watched video 1 and first completed the Engagement Profile individually and then came together to discuss their individual responses, build consensus and complete a collated EPS. During this focused inquiry on the EPS, the team became aware that they were seeing Ferdy from a different perspective. It was discussed that, in the video when they used the EP tool as their lens of inquiry, they saw Ferdy as a young boy who was extremely self-directed; he took initiative, was extremely aware of his surroundings, and was persistent within the schemas he regulated himself while in the pool. Figure 1 illustrates the completed EPS for video 1.

Figure 1 Engagement Profile: Ferdy February 2013



The consensus-building discussions offered the team an opportunity to exchange ideas and perspectives about Ferdy. The intention of the collaborative was to inform future planning for Ferdy and to build opportunities in the classroom for Ferdy to:

- have time to self-regulate by teaching him replacement skills and introducing him to effective sensory solutions (i.e. beads);
- have time to self-direct by having autonomy within classroom participation during non-preferred tasks;
- emphasize Ferdy's use of picture symbols of agents;
- increase Ferdy's use of assistive technology (Big Mac) to make requests; and,
- encourage water play with teacher-controlled variations to water depth and water toys to further his curiosity,

etc.

At the suggestion of Ferdy's Mom, it was also decided that another video of Ferdy be filmed in an unfamiliar public pool.

Video 2

This video depicted Ferdy at a local public pool with his Mom in the water with him. His Mom kept her distance to give Ferdy space to explore the water. Ferdy appeared aware of his surroundings and those within it; he made more eye contact, smiled more often, and engaged with his teacher who was outside of the pool, videotaping. This video also showed his extreme persistence; each time one of his floats started to fall down his arm, he would try to pull the float back up while maintaining the same water-slapping pattern. He appeared aware of the depth of the pool and its effect on his ability to slap the top of the water, and moved between different water depths.

A second EPS was collaboratively completed on video 2. The team reflected that awareness, initiation, and persistence were Ferdy's strongest sustained engagement indicators; investigation and discovery were his lowest, and curiosity and anticipation were partly and mostly sustained engagement indicators. It was agreed that his strongest indicators would be used to reinforce and strengthen his weakest indicators and that opportunities to self-direct on his own accord would need to be presented frequently during class time. Also, at this time, a specific goal for increasing communication was targeted; in class Ferdinand was to be given two minutes to indicate his desire for a choice of familiar objects. He then had one minute to play with the preferred object before he was distracted, the object was removed, and he had to indicate his choice again.

At the inquiry meetings, developments to pedagogy were suggested, revisited, and additional suggestions for development were generated. Insights came from members across the team and it was decided to offer Ferdy:

- color overlays into activities to build on his interest in light; it was determined that he had an affinity at this time to red;
- photographs of people and objects in the classroom;
- an increased number of self-directed activities; and,
- sensory-driven activities for him to choose.

Through the inquiry, the team had additional insights into Ferdy. For example, in one meeting it was shared that Ferdy's seating arrangement at the classroom table was problematic; the light from the window distracted him. The team problem solved and decided to move his chair to place his back to the window. It was also clear to the team that Ferdy was an active participant in activities he chose to be involved in; he was independent and extremely self-directed. Through the lens of seeing Ferdy as an engaged learner, team members reflected that he was quite mischievous; he took advantage of adults being distracted. In preparation for meeting 6, it was also decided to collect data on Ferdy's ability to indicate his desire for a known preferred object within the classroom. Observational data was collected about Ferdy's ability to indicate his desire for a known preferred object.

In meeting 6, the team reviewed this observational data and it was decided that increased emphasis was needed to invite Ferdy to request objects and activities. At this meeting, it was shared that Ferdy was showing increased engagement, not only in his classroom, but also at home and around the school. He was showing greater awareness, initiation, and persistence across preferred classroom activities. A third video of Ferdy was planned to repeat the EPS. Interestingly, unlike the beginning of the EPS process, the teacher had various activities she could video to show sustained engagement in classroom activities.

Video 3

This third video showed Ferdy at the water tray in classroom's outdoor covered area. The tray held many objects for Ferdinand to explore. A Big Mac was positioned on the table, which Ferdinand would use to request more play. Ferdy actively explored various objects and showed genuine curiosity as to how some of the objects worked or, at the least, how they could work in his favor. He engaged with his teacher by smiling, making eye contact, and laughter. His teacher modeled how to use an object, and Ferdy attended and often reached for the object to engage in play with it. Ferdy was active in his environment applying his familiar patterns of schemas in different and unfamiliar ways.

During the last meeting, the team completed a third EPS on video 3. Figure 2 illustrates the completed EPS for video 3.

Figure 2: Engagement Scale: Ferdy February 2013

Engagement Indicators	Score (0–4)	Next actions What insights have we gained?
Awareness	4/4	<i>Ferdy appears to:</i> <i>He is completely aware of his environment.</i> <i>He is very self-directed.</i> <i>He is very persistent when given the opportunity to be self-directed.</i> <i>Allow for more opportunities in the classroom for him to self-direct and initiate participation.</i>
Curiosity	2/4	
Investigation	1/4	
Discovery	1/4	
Anticipation	3/4	
Initiation	4/4	
Persistence	4/4	
Total score	19/25	

	0	1	2	3	4
In-class score	No focus	Low and minimal levels – emerging / fleeting	Partly sustained	Mostly sustained	Fully sustained

ENGAGEMENT SCALE

Mark TOTAL engagement score from sheet overleaf:

No	Emerging /	Partly	Mostly
Fully	Fleeting	Sustained	sustained

Focus Sustained																												
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

The consensus across the team was that there was a marked difference between the boy Ferdy once was and the boy he was within this video. All the areas of sustained engagement increased and were, at the least, partly sustained. Indeed, the Ferdy the team witnessed at his own house had made his way into the classroom. The team witnessed a different child: Ferdy was manipulating and exploring toys; he was smiling and engaged. His efforts in the classroom dramatically increased as well; he would attend to classroom activities. Given more opportunities to self-direct, his participation and engagement increased even in non-preferred tasks; he willingly sat with classmates and would humor his teachers by participating in lessons on the ActivBoard.

Reflections on the Inquiry

The sustained multi professional teaming inquiry proved to be beneficial and affirms literature on the value of collaborative inquiry related to learners with complex disabilities (Carpenter et al., 2015). The work was time-consuming and asked for a level of commitment from all team members and invited them to take risks in their pedagogical decision-making for Ferdy (Leat, Lofthouse, & Reid, 2013). However, the risks paid off and Ferdy appeared to make major progress on his levels of engagement across all classroom activities. For example, before the EPS, he had already been introduced to an assistive technology device, a Big Mac, which he used inconsistently. However, during an EPS meeting, where it emerged that he was particularly responsive to red overlay, a red interface was added to his Big Mac. When this occurred he was much more consistent in using the Big Mac to request activities or objects. The teacher shared data she had collected about this over a three-week period. The data story was particularly powerful. Moreover, Ferdy began to meet IEP goals with increasing speed.

Prior to the EPS, Ferdy met approximately 33% of his individualized education plan (IEP) goals over a progress period; his teacher commented that he would meet a benchmark but then hit a plateau. However, during the EPS, he met his IEP goals with more sustained consistency. His communication increased, given picture symbols of agents within the classroom, Ferdy mastered choosing from a field of two to request a desired item using both single switch activation and a picture exchange system. Ferdy’s Mom and his therapists, reflecting that he was able to apply his newly-established schemes for engagement across multiple contexts, echoed this view of Ferdy’s progress.

A particularly poignant comment came from Ferdy’s Dad. He shared that at home they have seen tremendous changes in Ferdinand: most noticeably, Ferdy looks at them. His Dad reported that, when Ferdy looks at him he looks at him, he no longer looks through him, showing a strong presence. He jokes that Ferdy verges on ‘bossing them around’. Dad also shared that Ferdy now shows reciprocal communication exchange. These are huge moves forward for Ferdy and his family. Although the time and energy commitment was great, the EPS process helped create a more constructive understanding of Ferdy.

Conclusion

For Ferdy, the multi professional teams inquiry on the Engagement Profile and Scale had a significant impact on how his professional team planned and implemented his learning engagement. Through the collective analysis of video employing the EPS tool, discussions emerged that highlighted highly-individualized engagement in learning for Ferdy. As a result of team discussions, ideas and suggestions for instruction and therapeutic interventions evolved and specific strategies were implemented.

The EPS provides multiple perspectives to teaching, learning, and student engagement for students with complex needs, such as Ferdy. It calls for a pedagogy shift that affords student engagement an important status in pedagogical decision-making. Ferdy's story illustrates that, when school teams come together to engage in purposeful inquiry around learner engagement, enhancement in student progress follows. The EPS takes a strengths-based approach and is holistic in nature, allowing students' current strengths in engagement to define their education. The EPS showed how powerful, meaningful, and relevant multiple perspectives are when assessing and implementing instruction for a student complex disabilities.

This story shows how the EPS positively influenced the pedagogical decision-making that affirms the findings of the international research project (Carpenter, et al 2011a; Carpenter, et al 2011b). It supports the EPS as a promising pedagogical tool for teams to employ for students with complex disabilities and calls for continued research on the application of the EPS in classrooms and schools.

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