



Published in final edited form as:

Phys Occup Ther Pediatr. 2020 ; 40(1): 79–92. doi:10.1080/01942638.2019.1622623.

Exploring Physiotherapists' Use of Motor Learning Strategies in Gait-Based Interventions for Children with Cerebral Palsy

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Abstract

Aim—This study investigated physiotherapists' experiences using motor learning strategies (MLS) in gait-based interventions for children with cerebral palsy (CP). The objectives were to explore how child characteristics, physiotherapist decision-making, and treatment approach influenced intentional MLS use.

Methods—Semi-structured interviews were conducted with eight physiotherapists who provided gym- and/or Lokomat-based treatment to children with CP. Interviews were analyzed using directed content analysis and a modified constant comparison method.

Results—Three themes described their experiences: (1) MLS use is driven by the unique aspects of the child, physiotherapist, and intervention; (2) The use and description of motor learning content varies among physiotherapists; and (3) The Lokomat is “the same but different.” Child characteristics were at the forefront of MLS selection in both interventions. The terminology used to describe MLS use varied considerably among therapists. They used similar clinical decision-making in gym-and Lokomat-based interventions.

Conclusions—Conscious reflection on the factors affecting MLS use could facilitate related clinical decision-making in physiotherapy interventions for children with CP. Increased awareness of MLS and use of a structured framework for reporting MLS are required to promote intentional MLS use and generate CP-specific evidence-based MLS research.

Keywords

Cerebral palsy; clinical decision-making; motor learning; motor learning strategies; physiotherapy

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Disclosure statement

No potential conflict of interest was reported by the authors.

Children with cerebral palsy (CP) present with varying motor, sensory, and cognitive deficits that affect their physical function and participation in daily activities (Bax et al., 2005; Burtner, Leinwand, Sullivan, Goh, & Kantak, 2014; Hemayattalab & Rostami, 2010; Valvano, 2004). There is potential to optimize a child's motor function via therapeutic interventions that enhance the learning underlying experience-dependent neuroplasticity (Diaz Heijtz & Forssberg, 2015). Motor learning (ML) refers to the acquisition of a motor skill, achieved through practice, which can be transferred to new learning situations (Schmidt & Wrisberg, 2004). ML can be promoted in therapeutic interventions by using motor learning strategies (MLS) (Larin, 1998, 2007; Levac, Wishart, Missiuna, & Wright, 2009) which are implemented by a physiotherapist (PT) as observable actions involving the selection and manipulation of ML variables based on child- and task-specific factors (Levac, Missiuna, Wishart, DeMatteo, & Wright, 2011). PTs employ MLS with the ultimate goal of helping children with CP transfer newly acquired/refined skills from intervention to use in daily activities. As such, understanding the treatment approaches that most effectively promote ML is a key priority in optimizing the therapeutic intervention and enhancing associated functional outcomes (Valvano, 2004).

The integration of technology-based treatment approaches in physiotherapy, including active video gaming (Winkels, Kottink, Temmink, Nijlant, & Burke, 2013), functional electrical stimulation (Pool, Blackmore, Bear, & Valentine, 2014), and robotic-assisted gait training (Meyer-Heim et al., 2009) is linked with the potential for enhancing ML in children with CP. However, studies evaluating these interventions rarely detail the extent to which the intervention protocol involved MLS (Borggraefe et al., 2010; Meyer-Heim et al., 2009; Pool et al., 2014; Wallard, Dietrich, Kerlirzin, & Bredin, 2018; Winkels et al., 2013). Additionally, ML outcomes are attributed to features of the technology, while the impact of therapist decision-making in selecting MLS to promote ML is overlooked (Borggraefe et al., 2010; Meyer-Heim et al., 2009; Wallard et al., 2018; Winkels et al., 2013). It is unknown if certain treatment approaches have increased potential for the implementation of specific MLS. Thus, it is imperative that the exploration of MLS use extends beyond traditional gym-based physiotherapy and also considers the application of novel approaches and/or technologies.

The desire to understand MLS use in physiotherapy interventions led to the creation of the Motor Learning Strategies Rating Instrument (MLSRI-20), a revised version of the original instrument (Levac et al. 2011). It measures the extent to which 20 MLS are observed within a video-recorded treatment session (Ryan, Wright, & Levac, 2016) (Table 1). While the MLSRI-20 is reliable in physiotherapy interventions for children with CP (Ryan, Levac, & Wright, 2019), it does not indicate PTs' intentions when using specific MLS nor does it explain the decision-making that accompanies their selections. While there is a theoretical link between physiotherapy goals for children with CP and ML theory, studies suggest that PTs may not always be intentionally applying MLS (Atun-Einy & Kafri, 2018; Hayes, McEwen, Lovett, M'Lisa, & Smith, 1999). Consequently, one cannot assume that the observation of MLS indicates their purposeful use.

The purpose of this study was to explore how PTs apply MLS in gait-based physiotherapy interventions for children with CP. By investigating MLS selection in within an ongoing

therapy-based research study involving both traditional gym-based interventions and physiotherapy in the Lokomat® robotic-assisted gait trainer, our team had a unique opportunity to identify differences in MLS use based on the PT, child, and/or treatment approach. Additionally, this study identified how PTs' intentions to use MLS align with the MLS included in the MLSRI-20, which support its use in determining the key "active" ML ingredients in therapy sessions.

Methods

Design

This qualitative study used a descriptive interpretive approach, allowing investigators to enhance the understanding of clinical situations and promote the refinement of clinical practice (Teodoro et al., 2018).

Participants

Eight PTs were recruited from a team of 20 treating PTs (all women) working in one of three Lokomat clinical trials for children with CP at Holland Bloorview Kids Rehabilitation Hospital (HBKRH). Maximum heterogeneity sampling was used to capture a diverse range of PT characteristics (Patton, 2002), including their experience in pediatric physiotherapy and the Lokomat studies (Table 2). PTs had at least 3 months of experience with the Lokomat and provided intervention in both gym- and Lokomat-based sessions. While there is no established sample size for qualitative studies (Patton, 2002), studies using semi-structured interviews can be guided by information power, which is appraised by examining study aim, sample specificity, use of established theory, quality of dialog, and analysis strategy (Malterud, Siersma, & Guassora, 2016). A sample of eight PTs was determined based on the narrow study aim, dense sample specificity, use of the MLSRI-20 framework, and moderately estimated quality of dialog and analysis strategy.

Children (6–17 years, Gross Motor Function Classification Scale [Palisano et al., 2008] I–IV) in the Lokomat studies received twice-weekly intervention from two PTs for at least one 8-week block of Lokomat and/or gym-based interventions. Videos were recorded in at least two treatment sessions for each child. Tailored clips of these videos were used in the interviews. The first author created up to two 3-minute videos of the interviewed PT providing intervention with the goal of including gym and Lokomat sessions for each child; a range of MLS; effective and ineffective MLS use; and/or differing levels of child engagement and behavior.

The Research Ethics Boards at HBKRH and the University of Toronto approved the current study protocol. PTs provided written consent prior to participating in the interview. Written consent to use treatment videos was obtained from the parent and child.

Procedure

Individual semi-structured interviews (60-minute duration) were conducted with the aim of obtaining a range of perspectives on MLS use (Stalmeijer, McNaughton, & Van Mook, 2014). The interviews began with inductive questioning regarding the PTs' clinical decision-

making during gym- and Lokomat-based interventions and finished with the PTs reflecting on their MLS use in the video clips. The number of videos used in each interview depended on child consent and availability of video footage for each PT. Bias towards specific MLS was avoided by using open-ended rather than targeted questions (Hsieh & Shannon, 2005) (e.g., asking about “the things you do/say to teach children” rather than “the MLS you use to teach children”). Inductive questioning also prevented over-reporting of MLS and allow PTs to use their preferred vocabulary (Figure 1). The interviews were audio-recorded and transcribed.

Analysis

Primary coding occurred after each interview using NVivo 8.0. The first three transcripts were independently coded by the first author and a research assistant (RA) and compared to ensure consistency of coding. The remaining transcripts were either coded by the RA (three) or the first author (two). Three data analysis meetings took place throughout the interview period, where the study team reviewed coding, categorizing, and analysis to date. Directed content analysis involved data coding using a deductive approach (Hsieh & Shannon, 2005) where all instances of specific MLS identified in the transcripts were highlighted and coded with predetermined MLS from the items in the MLSRI-20 (Table 1). Any text that could not be categorized using the MLSRI-20 items was identified and coded using inductive category development (Hsieh & Shannon, 2005). The MLSRI-20 scoring system was not pertinent to the coding process.

As the data set expanded, analysis occurred within and between interviews, using a modified constant comparative method (CCM) (Boeije, 2002) where comparison occurred within and between PTs, within and between treatment approaches, and within and between children. These comparisons strengthened the internal and external validity of the study findings (Boeije, 2002). The analysis was considered complete once all alternative explanations were considered, and the resultant themes were consistent and defensible (Beveridge et al., 2015).

Results

Three themes representing the PTs’ decisions and experiences using MLS during intervention were developed during the analysis meetings. (All names are pseudonyms.)

MLS use is influenced by child, PT, and intervention-related factors

MLS use is driven by the unique aspects of the child, PT, and intervention which are embedded in time-dependent static, dynamic, proactive, and reactive factors (Figure 2). “Static factors” comprise child and therapist characteristics that remain relatively unchanged in the immediate future (e.g., during a block of intervention), including child physical presentation, cognitive abilities, age, developmental stage, learning style, behavior; and therapist teaching style, professional training, and clinical experience. Participants indicated that child characteristics had the strongest influence on their MLS decision-making and use. They drew upon knowledge of a child’s characteristics to promote active involvement and optimize opportunities for ML.

[I] see what sparks them, see when they start to pay more attention to what I'm saying, see what their language is and what they want to talk about. I really watch and listen and try to go with their lead ... and then I say what I want to say but within their topic or [within] their ability to understand. (Brigitte)

“Dynamic factors” refer to aspects of intervention likely to change over a number of sessions. They are based on the child’s goals coupled with the PT’s clinical decision-making, therapeutic environment, equipment available, and therapeutic rapport. The PT determines how the child responds to MLS by observing his/her performance, understanding, engagement, and motivation across the sessions. MLS use is continually adapted based on the child’s abilities.

... our starting point changes each time, as they can do more and more. So my verbal cues or my physical cues might change as they do more difficult things or they need less help with the previous things. (Brigitte)

“Proactive factors” identify how the PT prepares for a single treatment session. She considers static and dynamic factors while developing session-specific goals. Reflection on the child’s past responses to MLS influences the tasks/strategies she plans to apply in the upcoming session. The child’s past engagement and motor performance influence how she varies and progresses tasks in subsequent sessions.

[I] think about what we did during the last session and hopefully, you know, you’ve seen some changes in what they’re doing ... how can I progress the activities that we were already doing to kind of challenge them further? ... If they’re bored with certain activities, then I’m ... coming up with different ideas ... (Justine)

“Reactive factors” are the least stable of the four factors, and refer to the PT’s immediate responses within a session. These clinical decisions are based on visual, auditory, and tactile observations. In addition to considering child characteristics and assessing immediate performance, the PT analyses behavior, engagement, and motivation. Reactive factors may be the most influential as they are context-specific and highly dependent upon the child’s actions/reactions to the MLS presented in the session, often resulting in the instantaneous adaptation of their plans.

I like to have that set treatment plan but what happens in a session ... is somewhat directed by the kid ... I have to react to everything they’re feeding me. (Kim)

The use and description of motor learning content varies among PTs

Inductive questioning allowed PTs to describe their clinical decision-making using their own vocabulary. “Motor learning” was mentioned infrequently and inconsistently (e.g., nine times by three of the eight PTs). Instead, therapists described ML using terminology such as “carryover,” “translate,” or “integrate.” While the MLSRI-20 categorizes MLS as “What the therapist SAYS,” “What the therapist DOES,” and how the “Practice IS” organized, the PTs described their approaches in terms of “verbal,” “tactile,” and “visual” cues.

... usually I use verbal instructions and verbal feedback. If I find that it’s not working ... I tend to go to tactile stuff ... and then I’ll use the visual. (Kaillie)

When asked to describe their approach to treatment, the PTs initially focused on session organization, indicating they planned several tasks prior to the session. They did not specifically plan what they would “do” or “say,” nor did they refer to current ML evidence. When probed, they stated that they begin tasks using verbal instruction and augment with demonstration and/or physical guidance, depending on child characteristics and initial task performance. They reworded instructions/feedback based on the child’s performance, understanding, and engagement.

At times, the PTs used the same words amongst each other to discuss the same concepts, while other times they used the same words to describe different concepts. For example, “visual” was used to convey multiple concepts, including:

1. External focus of attention: “Rather than saying ‘take a big step’ ... we put a toy there so that his knee can come up to the toy ... so there’s something visual for him to target.” (Tessa)
2. Demonstrating a task: “ ... so some children do better with that visual demonstration and I have others who don’t like the visual ... processing all that visual information is very challenging for them and often makes them more confused.” (Alex)
3. Use of visual feedback: “I try to use visual cues as well ... if it’s an activity they can do in front of a mirror ... I give that visual feedback for them as well, so it’s not just me describing ... ” (Justine)

They used varying terminology within and among themselves to describe physical guidance, which was implemented as a form of instruction, feedback, and task progression.

He was a little bit more cognitively delayed, and so very simple tactile cues ... were much more effective than me trying to use words to describe what I was hoping for. (Laurie)

... take away some of my support ... have them do an activity without any guidance ... take away ... or vary my amount of assistance. (Brigitte)

The following MLS were mentioned once across the eight interviews: recommending practice beyond therapy; mental practice; providing education; and random practice order. “Encouraging errors” and “linking an activity practiced in therapy to another activity” were not specifically discussed. However, encouraging errors was implied when the PTs mentioned progressing the challenge of a task, whereby they adjusted the level of difficulty to encourage a certain degree of failure without the child feeling that completing the task was impossible. Several MLS not included in the MLSRI-20 were discussed: “analogy learning,” “visual feedback,” and “auditory feedback.”

The Lokomat is the “same but different”

Both treatment approaches permitted the PTs to work toward gait-based ML goals. Using the Lokomat was compared to introducing a piece of equipment with unique properties in a gym-based session. Regardless of the equipment, the PTs used similar decision-making when integrating it within an intervention.

I don't feel it's very different in terms of the way that I do it ... the Lokomat is just a different thing, right? There are the parallel bars, there is walking with a walker, there is the Lokomat. (Kaillie)

While the Lokomat has features/capabilities that differ from the equipment in gym-based interventions, the child's characteristics remain constant. Given the focus on child characteristics for MLS-based decision-making, the PTs applied many of the same MLS across both types of intervention. They emphasized the importance of child engagement and repetition of practice across both treatment approaches. The PTs broke tasks down into components and emphasized part practice when initially addressing a skill. Then they consolidated the skill by combining the components together and emphasizing whole practice. While the process may appear slightly different between the gym- and Lokomat-based sessions, the PTs' intentions were the same.

The PTs reported less "freedom" regarding task options in the Lokomat compared to gym-based intervention and expressed the desire to work on gait-related skills and "trunk control" in more situations than simply walking. Consequently, they had to be creative in how they addressed certain goals (e.g., strengthening a muscle group) when constrained by the Lokomat. At times they drew upon the Lokomat's novel properties, such as augmentative feedback, to keep the child motivated. Fewer task options in the Lokomat led to less planning prior to intervention. However, similar to gym-based intervention, the PTs still focused on task progression in the Lokomat.

My ultimate goal [in the Lokomat] is if I can take off as much support as possible and get the [kids] as active as possible. (Tessa)

Physical guidance was an important MLS for children with greater motor impairment across both treatment approaches. However, when the Lokomat provided the guidance, the PTs could focus on other MLS, such as using more verbal instructions and feedback. The PTs felt their manual facilitation differed from the Lokomat's support, which led to varied description of physical guidance between interventions. They described the physical guidance in gym-based sessions as "facilitating," "finessing," "cueing," or "providing feedback" while the physical guidance in the Lokomat was described as "support." Several PTs remarked that the Lokomat's physical guidance "prevented" or "hid" mistakes.

Discussion

Rather than grounding clinical decision-making in ML evidence, child characteristics were at the forefront of the PTs' MLS selection and implementation, regardless of treatment approach. These characteristics provided the foundation for the static, dynamic, proactive, and reactive factors that influenced how the PTs selected and used MLS. There were aspects of intervention that remained consistent over a block of treatment and elements that gradually changed. These findings confirm the need to plan for interventions based on the child's goals and past performances, while acknowledging the inevitability of instantaneous clinical decision-making during intervention. Awareness of these influencing factors permit PTs to prepare for and reflect upon a treatment session, as well as identify and evaluate the effects of certain MLS with each child.

Similarities in the verbalizations used in gym- and Lokomat-based interventions were linked to child characteristics rather than PT preference or the properties of the treatment approach. However, differing MLS vocabulary made it challenging, at times, to distinguish between how the PTs' individual style and/or clinical experience influenced MLS selection. PTs integrate observational skills, professional training, and clinical experience into their decision-making (Levac, Miller, & Missiuna, 2012; Wainwright, Shepard, Harman, & Stephens, 2011). Thus, some aspects of MLS implementation are inherently unique to the PT and are a product of accumulated clinical knowledge. Clinical decision-making extends beyond interpreting physical performance to analyzing the cognitive and affective factors that influence a child's understanding and engagement in intervention (Levac et al., 2012; Wainwright et al., 2011).

While there are obvious differences in the Lokomat's properties and the tasks performed within it, the PTs appeared to use decision-making similar to gym-based intervention. They considered the features of the Lokomat as they would consider the properties of equipment used in gym-based intervention and maximized opportunities for ML based on its capabilities and the child's goals. The PTs reflected upon the successes and challenges of each session, which promotes continuing progress toward treatment goals (Wainwright et al., 2011).

The MLS documented in other Lokomat studies emphasize repetition and progression (Bang & Shin, 2016; Borggraefe et al., 2010; Meyer-Heim et al., 2009; Wallard et al., 2018) with occasional reference to augmentative feedback (Wallard et al., 2018), and verbal encouragement (Borggraefe et al., 2010). The PTs in this study reiterated the value of these MLS, and also identified increased opportunity for verbal feedback and visual demonstration with more physically involved children when the Lokomat provides the physical guidance instead of the PT. While the PTs acknowledged greater difficulty maintaining intensity and maximizing repetition in gym-based intervention, they identified the ability to practice of a greater range of functional movements which they associated with enhanced opportunity to generalize skills beyond intervention. In contrast with previous interview studies (Larsson, Miller, Liljedahl, & Gard, 2012; Levac et al., 2012), there was limited discussion about providing education or recommending practice beyond therapy, which may have been related to these MLS inherently occurring less frequently than conventional MLS (e.g., verbal instruction/feedback, physical guidance, repetition).

A lack of conclusive evidence supporting/refuting the use of specific MLS in children with CP complicates their implementation in intervention. Existing studies have small sample sizes (Burtner et al., 2014; Jongsma et al., 2016; Thorpe & Valvano, 2002), narrow sample specificity (e.g., unilateral CP) (Burtner et al., 2014; Cabral-Sequeira, Coelho, & Teixeira, 2016; Jongsma et al., 2016; van der Kamp, Steenbergen, & Masters, 2017), and focus on simple, lab-based movements (Burtner et al., 2014; Cabral-Sequeira et al., 2016; van der Kamp et al., 2017) which fails to reflect the diversity of CP and the motor skill complexity required for daily function. However, studying the controlled use of MLS in a therapeutic environment is often impractical due to the need to adjust MLS based on child characteristics and reactive factors arising during intervention. Differing MLS terminology among clinicians and researchers complicates literature searches and impedes the

interpretation of study results, thus preventing PTs from reflecting upon and applying findings in their practice. Currently, PTs can choose to apply MLS based on limited CP-specific evidence, adapt adult-based ML theory using their clinical experience, or employ approaches that broadly use MLS groups (Levac et al., 2009) (e.g., cognitive orientation to occupational performance (Cameron et al., 2017), neuromotor task training (Schoemaker, Niemeijer, Reynders, & Smits-Engelsman, 2003), family-centered functional therapy (Law et al., 1998), and activity-focused motor interventions (Valvano, 2004)). This study identifies the need to adopt a common MLS language and systematically document MLS use within interventions, both of which can be accomplished using the MLSRI-20. The MLSRI-20 permits transparent reporting of research protocols, allows comparison between treatment approaches, and facilitates the study of the effects of MLS implementation on ML. Additionally, its implementation should enhance interprofessional communication and create greater awareness of the range of MLS, which would promote intentional MLS use in therapeutic intervention. Enhanced awareness and increased CP-specific MLS evidence will permit future development of practice guidelines for MLS use.

To the authors' knowledge, this is the first published qualitative study addressing both ML and clinical decision-making in physiotherapy for children with CP. Comparing gym- and Lokomat-based interventions allowed investigation of possible differences in clinical rationale depending upon treatment approach. This study was nested within several ongoing clinical trials comparing the efficacy of gym- and Lokomat-based intervention. While the clinical trials mimicked child-centered clinical treatment, it is unknown if PTs' perspectives would differ in a clinical setting. The primary reported difference was the reduced treatment duration in the clinical trial (e.g., 30 minutes), may have limited opportunities for using MLS requiring more in-depth explanation, such as education or mental practice. As a treating PT in the Lokomat studies, the first author has specific clinical experience that shaped the interpretation of data collected in this study. As the study interviewer, her familiarity with some study participants may have influenced their responses. Inductive questioning was used, in part, to offset interviewer influence and allow in-depth examination of the PTs' vocabulary. Inductive questioning may have caused PTs to overlook specific MLS experiences that could have been captured using deductive questioning. However, deductive questioning would have biased the PTs' responses toward the MLS outlined in the MLSRI-20.

Conclusions

This study highlights the influence of the child, therapist, and treatment approach in MLS implementation in gait-based physiotherapy intervention for children with CP. Adopting a common MLS language among PTs will increase communication, awareness, and intentional use of MLS. Not only does the MLSRI-20 provide the framework for using a common language, but it supports the comparison of novel treatment approaches and permits future study of the impact of MLS use on ML in children with CP.

Acknowledgments

The authors would like to thank the physiotherapist participants. We also extend our appreciation to Research Assistant Celia Cassiani and Research Manager Gloria Lee for their roles in data analysis and obtaining child/parent consent, respectively.

Funding

This study was funded by the Holland Bloorview Children's Foundation Chair in Pediatric Rehabilitation.

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1. Can you tell me a little bit about your involvement in the Lokomat studies for children with CP at HBKRH to date?
 - a. How long have you worked in pediatric physiotherapy?
 - b. When did you start providing treatment for one of the Lokomat studies?
 - c. Approximately how many children have you treated so far in the Lokomat studies?
 - d. What are the GMFCS levels of the children you have treated?
 - e. Would you say you have primarily provided treatment in the traditional physiotherapy arm, the Lokomat arm, or has it been evenly distributed between both treatment arms?
2. What kinds of things do you think about when planning your treatment sessions in these Lokomat studies?
 - a. For traditional gym-based physiotherapy sessions?
 - b. For Lokomat physiotherapy sessions?
 - c. Is there a difference between how you plan for a Lokomat session compared to a traditional physiotherapy session?
 - d. Have any of the study treatment restrictions affected how you planned your sessions?
3. Do you have specific approaches that you like to use in treatment sessions to teach a child a motor skill? What factors contribute to why you tend to use them?
4. Are there specific approaches that you are aware of but don't usually use very often? What factors contribute to why you tend not to use them?
5. Are there approaches that you like to use outside of this study but found difficult to apply in this setting? What aspects of this setting make these techniques difficult to use?
6. Are there differences in the approaches you use to teach a child motor skills in a traditional physiotherapy session compared to a Lokomat session? Are these differences specific to the child or to the type of intervention?
7. Are there certain approaches that are difficult to use in:
 - a. Traditional physiotherapy?
 - b. Lokomat?
8. When you use a specific approach to teach a child a motor skill, what type of response(s) are you looking for to determine if it was effective or ineffective? How do you respond if you think the approach was ineffective?
9. Do the types of approaches you use for a particular child change over time or do they stay the same? Can you give an example?
10. Here are a few clips of you working with client X. *After watching video:* Can you describe your thoughts around some of the teaching approaches you used in these clips?
 - a. Can you recall specific approaches that were effective or easy to use with client X?
 - b. Can you recall specific approaches that were ineffective or challenging to use with client X?
 - c. *If clips available for both Lokomat and traditional PT sessions:* Can you recall if there were differences in how you were able use teaching approaches with this client between traditional PT and Lokomat sessions?

Figure 1.
Interview guide.

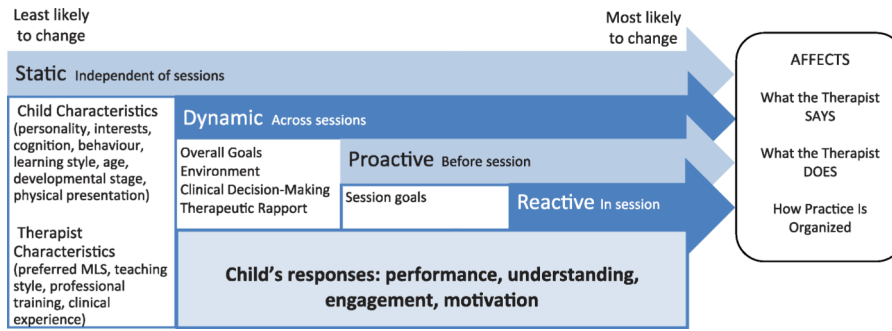


Figure 2.
The factors influencing MLS use in pediatric physiotherapy intervention.

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Table 1.

MLSRI-20 item description (Ryan et al., 2016).

MLSRI-20 Category	Item	Description
What the Therapist SAYS	1	Encouragement
	2	Instructions direct attention to object/environment
	3	Instructions direct attention to body movement
	4	Problem-solving involves asking (rather than telling)
	5	Feedback relates to movement performance
	6	Feedback relates to results
	7	Feedback relates to what was done well
	8	Feedback relates to what was done poorly
	9	Link activity being practiced to other activities
	10	Encourages mental practice
What the Therapist DOES	11	Uses demonstration/modeling
	12	Provides physical guidance
	13	Provides environment where errors are part of learning
	14	Recommends practice outside of therapy
	15	Provides education to client/caregiver
How Practice IS Organized	16	Repetitive
	17	Whole (rather than part)
	18	Variable (rather than constant)
	19	Random (rather than blocked)
	20	Progressive

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Table 2.

Demographics of PT participants.

PT	Pediatric physical therapy experience ^a	Areas of clinical experience	Lokomat study experience ^c	Video clips available
1	High	Inpatient, Home care	High	2
2	High	Outpatient ^b , School care	High	2
3	Low	Inpatient	High	2
4	High	Outpatient, Inpatient, Home care	High	2
5	High	Outpatient, School care	High	1
6	High	Outpatient, School care	Low	0
7	High	Outpatient, Inpatient, Home care	High	2
8	Low	School care, Home care	Low	2

^aPediatric physical therapy experience: high = >8 years, moderate = 3–8 years, low = <3 years.

^bOutpatient = children's treatment center.

^cLokomat study experience: high = >2 years, moderate = 1–2 years and treated 4 or more children in the study, low = <1 year or treated <4 children in the study.