

LANGUAGE ACTION PERCEPTIVE (LAP) AND ITS INFLUENCE ON COMMUNICATION IN PROJECT TEAMS

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ABSTRACT

Communication failures remain a persistent barrier to effective collaboration in lean construction projects, leading to breakdowns in coordination, trust, and reliable delivery. The Language Action Perspective (LAP) offers a framework for understanding communication as a performative process, where structured speech acts such as requests, promises, and declarations create and manage commitments among project participants. This study was conducted to explore how the LAP influences key aspects of communication practice within construction project teams. A single-case study was conducted on a major U.S. healthcare construction project, where project leaders participated in workshops to apply LAP concepts, including speech acts, conditions of satisfaction, and relational elements such as trust, listening, and mood, with data analysed using content analysis. Findings from observations and pre- and post-intervention surveys and interviews revealed improvements in communication practices across the five areas of trust, quality of communication, clarity of requests, reliability of promises and meeting effectiveness. The findings provide some evidence that LAP focused training can provide the skills for project participants to improve and develop the softer skills for improving communication and team dynamics during projects. The LAP can offer a human-centred approach to communication improvement despite the increasingly dominant technology-centric focus on communication in construction.

KEYWORDS

Lean construction, language action/linguistic action perspective, trust reliable promising, commitment.

INTRODUCTION

Communication breakdowns remain a challenge on construction projects, often leading to coordination failures, mistrust, and unreliable outcomes (González et al., 2010). While lean construction has provided methodologies that reduce waste and enhance performance (Howell and Ballard, 1998), persistent issues of unclear requests, vague commitments, and ineffective communication still undermine collaboration across project teams (Macomber & Howell, 2003). Technology-led solutions, such as Building Information Modelling (BIM), have helped improve data exchange (Zhao et al. 2015) but do not inherently address the human and relational

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dimensions of team communication. A growing body of literature (Macomber and Howell, 2003; Viana et al., 2016) points to the need for a deeper understanding of the social and conversational structures that shape project coordination. Within this context, the language-action perspective (LAP) can provide a theoretical and practical lens for using language as both a medium for information transfer and a key element of coordinated action. However, a fundamental research question remains how it can be used practically to improve communication in construction project teams. The aim of this study was therefore to interrogate how the LAP influences communication practices on lean construction projects. To achieve this, the next section provides a discussion of the LAP and communication, followed by the research methodology adopted for the study, the findings and discussion, and the conclusion.

LANGUAGE ACTION PERSPECTIVE (LAP) AND COMMUNICATION ON PROJECTS

The LAP is rooted in exploring language's multifaceted role in communication, expression, and social interaction (Winograd and Flores, 1986). The LAP posits that language is not merely a means of conveying information but is integral to the creation and performance of actions and the establishment of social relationships (Macomber and Howell, 2003). The LAP is grounded in the idea that effective communication involves not only the exchange of information but also the negotiation of commitments. This perspective highlights the importance of speech acts like utterances that perform actions such as promising, requesting, or informing, and their role in shaping interactions and outcomes. The LAP encourages participants to engage in meaningful conversations that align actions with shared goals, enhancing cooperation and reducing misunderstandings (Macomber and Howell, 2003).

The traditional applications of the LAP in construction have often focused narrowly on its structural elements, such as speech acts, CoS and workflow loops, while neglecting the relational dimensions (e.g., trust, listening, and mood) that determine the success of those conversations in practice. In high-stakes, high-variability environments like construction, the success of commitments depends not only on what is said, but on how it is heard, interpreted, and acted upon in context (Flores, 2013). This broader conceptual view of the LAP, which factors in the relational elements, is shown in Figure 1. In lean construction, where reliable commitments underpin flow and value generation, the LAP can offer both a conceptual lens and a practical framework to improve communication and team coordination.

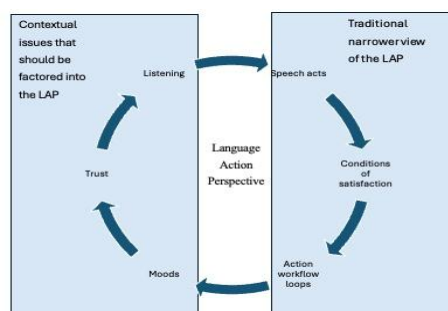


Figure 1: Broader conceptual view on the LAP for this study (Author's Own)

Recent studies on the application of the LAP have focused on how it can be used to improve lean construction tools such as the last planner system (Salazar et al., 2020, Retamal et al. 2021, Salazar et al., 2022). Retamal et al. (2021) applied the LAP in improving planning reliability and performance outcomes. Salazar et al., 2020 developed key LAP indicators for the last planner system that they incorporated into a commitment management system (Salazar et al., 2022). There is limited attention to the role of LAP in shaping broader team communication, relationships, and trust, which this study addresses. While the traditional view of the LAP identifies what conversations must include to coordinate action, it does not fully explain why

those conversations often fail in complex project environments, or what conditions must be present for them to thrive. All the concepts featured in this broader view of the LAP in Figure 1 (speech acts, AWL, CoS, Trust, moods, and listening) have implications for enhancing communication during construction projects (see Table 1). The LAP can help improve the clarity of requests, reliability of promises, and coordination of commitments, three critical areas that directly affect project team performance (Viana et al., 2016).

Table 1: Relevance of the LAP to lean construction (informed by Flores, 2013)

LAP Concept	Description	Relevance to Construction Projects	Practical Applicability
Speech Acts	Language functions such as requests, promises, declarations, and assessments.	Enables precise coordination of work, clarifies intent, and reduces ambiguity across stakeholders.	Can improve communication clarity, reduce confusion, and help to identify communication gaps.
AWL	A visual language-based representation of a transaction.	Provides a visual structure for how coordination acts are performed.	Can help in identifying breakdowns, follow-through on responsibilities, and team alignment.
CoS	Criteria that define when a request or promise is successfully fulfilled.	Helps establish shared expectations between people and disciplines.	Can reduce misalignment and disputes over deliverables.
Trust Domains	Domains of trust: sincerity, competence, reliability, and care.	Offers a framework for diagnosing and repairing trust breakdowns between team members and organisations.	Can enhance cross-functional collaboration and stakeholder engagement.
Moods	Background emotional states that influence how language is interpreted.	Affects team culture, openness to new ideas, and willingness to engage in transparent communication.	Can guide leaders in shaping team culture, handling resistance, and fostering psychological safety.
Listening	Understanding that each person listens from their own history and perspective.	Reduces conflict caused by differing interpretations and supports deeper mutual understanding.	Can enhance alignment during design development and cross-disciplinary meetings.

The LAP, through structured speech acts such as requests, offers, and promises, reframes communication as a set of performative actions that generate new realities rather than simply describing existing conditions (Macomber and Howell, 2003). These insights directly raise the question: How does this broader view of the LAP influence communication practices,

specifically the clarity of requests, the reliability of promises, and the coordination of commitments within construction project teams? This study, therefore, sought to investigate how this broad view of the LAP could be used to influence three interrelated dimensions of project communication: clarity of requests, reliability of promises, and coordination of commitments.

RESEARCH METHODOLOGY

The research methodology for this study employs a qualitative approach, combining multiple case studies and action research to explore the impact of the LAP on communication and team dynamics in construction projects. The case study approach allowed for an in-depth, contextual analysis of two real-world project teams. However, the within-case findings from one of the two cases conducted as part of the overall research (Case Study One) is the focus of this present study. The action research methods enabled the researcher to engage participants in the focus group workshops, applying and reflecting on LAP principles so that the lived experiences of project teams, and the effects of intentional, language-based interventions could be captured. Case study One pertained to a team that designed and constructed a 176,000-square-foot building expansion on an existing healthcare campus in Portland, Oregon, United States of America. The project was designed to include a neonatal intensive care unit, labour and delivery rooms, postpartum rooms, and antepartum rooms. It was also intended to include 22 beds for women and children. When the research was being conducted in 2022, the project had a budget of \$325 million. The project team was comprised of a design team, an owner, and a contractor. The owner had a direct contract with the design team and the contractor, and there was no direct contractual link between the design firm and the general contractor.

Data was collected through direct observations during workshops, pre and post workshop interviews, and pre- and post-workshop surveys. The workshop was the primary vehicle for the action research element, allowing participants to engage with LAP concepts with the researcher as an active participant in this process, seeking to achieve change. The workshops were initiated by the Owner in response to observed breakdowns in communication and coordination within the project team. The researcher acted as both facilitator and action researcher, guiding participants through LAP concepts while observing how their application influenced real-time project interactions. The workshops were thereafter structured as an immersive learning experience grounded in the LAP, in which participants were introduced to core LAP concepts that they could apply during the live projects and for which they could develop observable communication competencies and commitment practices that are central to coordination on lean projects. While the active intervention of the researcher may appear similar to a traditional team-building exercise, the content of the workshop was carefully and systematically designed to reflect the broader conceptual view of LAP in Figure 1.

The workshop was designed to be 12 hours long, delivered as either six 2-hour workshops (see Table 2) or one 1-hour workshop lasting 1 ½ days. When delivering the workshop in six 2-hour sessions, it was challenging to keep a team of people together for six separate sessions and create a workshop schedule that accounted for conflicts (holidays, sick days, and other project commitments) among the participants. Finding a consistent space for all six sessions was also difficult to provide a consistent environment for the workshops. However, the time between the workshops provided an opportunity for participants to reflect on the topics covered and exercises. Participants that engaged in the 1½ days format appeared to have moments of mental and physical exhaustion due to the intensity and appeared anxious about being disconnected from the project for that duration. The researcher had to be more disciplined in keeping participants off their phones and computers and allowed for extended breaks so they could check in and make phone calls. Two workshop rounds (Cohort One with nine people and Cohort Two with seven people) were conducted for Case Study One, with participants chosen

from a cross-section of project leaders from the owner, design team, general contractor, and trade partners. Many of the participants had both leadership and technical responsibilities and the workshops lasted about one month apart.

Table 2: Workshop topics and links to the literature

Module	Workshop Topic	Literature Background
Module One	Introduction to the LAP	Based on the history of the LAP and the historical use of the LAP in lean construction
Module Two	Speech Acts	Based on the work of John Searle and Fernando Flores
Module Three	Moods and Emotions	Developed around the ideas of Martin Heidegger and Fernando Flores
Module Four	Team Assessment Exercise	Exercise developed by Fernando Flores to teach teams how to give positive and negative assessments for improvement to each other.
Module Five	Listening	Based on the literature reviewed, this was developed to test how an understanding of the speech acts can improve our ability to listen. Also, the work of Heidegger to establish that our own historicity is the foundation for effective listening
Module Six	Trust	Exploring how conversations can produce a higher level of trust within teams. Trust is built, maintained and repaired in conversations with others.

Interview transcripts and observation notes were analysed by reviewing them in detail and coding using content analysis. This systematic approach enables the identification of recurring themes and patterns within qualitative data. This process highlighted participants' experiences, concerns, and expectations, and documented the emerging themes to inform the focus of subsequent workshop observations. The pre- and post-workshop surveys provided both quantitative measures and qualitative insights into participants' experiences. While the numerical data were examined separately, the open-ended responses were analysed qualitatively using the content analysis framework.

FINDINGS AND DISCUSSION

Pre-workshop, the researcher observed the project team in regular meetings over two weeks, with some observations made during virtual meetings and others in-person colocation design meetings. The meetings included design team members, subject matter experts from the owner, general contractor members, and trade partners. Key elements of the interviews and observations are summarised in Table 3. The pre-workshop interviews revealed a high level of mistrust among the parties. The design team reported that they did not feel trusted to do design work and did not trust the estimates from the general contractor on the project. Their feeling was that the general contractor overestimated the costs of many project elements to protect themselves later and provide a financial cushion. This led the design team to reduce or limit their design to meet a budget they felt was inaccurate. The design team also felt that the people representing the owner's facility team were requesting upgrades to the design standards or items

outside the project's scope. The design team were uncomfortable having difficult conversations with the owner about these additional items, leading to an intense mood of resignation.

Table 3: Quotes on team dynamics from pre-workshop observations and interviews

Key Domains of Team Dynamics	Key Quotes from Interviews and Observations of Pre-Workshop Team Dynamics
Level of trust between team members	Designers don't trust the owner to not to meddle in design, so they have secret meetings.
	Designers don't trust the contractor's estimates, so they are sceptical of changing the design to lower costs.
	The contractor doesn't trust the owner's budget. They feel that they have more but are not sharing.
	Very little friendly chat among team members.
	Lack of collaboration amongst team members.
Quality of communication between team members	There is a lot of gossip about the budget, schedule, and whether the project will move forward.
	No communication outside of Project Execution Team (PET) meetings.
	Poor communication about PET meetings. Some people don't even show up.
	There are no decision-makers in the PET meetings, so decisions are rarely made or communicated there.
Clarity of request made	The definition of a PET team and what they are responsible for needs to be clarified.
	It is hard to develop relationships with people who do not come to work or do not interact with each other.
	I'm not sure what I should be working on.
Reliability of promises	We ask the owner and the contractor for certain things, but we often get something different from what we asked for.
	We are talking past each other.
	People don't do what they say they will do.
Meeting effectiveness	When someone says they will do something, I have little faith that it will get done.
	Too many housekeeping and administrative items are in meetings, and there needs to be more talk about coordinating the work.
	Everyone reports high stress about the meeting structure.
	There were too many ineffective meetings and insufficient time to do the work.

This mood of resignation signalled a negative emotion. Peslak (2005) has previously revealed that as the intensity of emotions grows over the life of a project, it can significantly affect overall team processes. Furthermore, the general contractor had a small staff that handled estimating and constructability reviews. Pre-workshop, they reported that the design team needed to take the budget more seriously as the project was being jeopardised by their inability to stay within

it, posing a risk of cancellation. They also reported having a hard time with the owner's facility team, who they claimed were not open to alternatives to major equipment selections that would help reduce project costs to be within budget. The owner team on their side reported distrusting the design team, who do much of the design behind the scenes and then present it to them for review. This led to significant design rework, as the owners often provided detailed comments that affected the fundamental aspects of the project. Like the design team, the owner team also felt the general contractor was inflating their estimate to have a cushion later, forcing them to make a difficult decision of cutting scope. They also reported that no one was talking about these issues meaningfully; they were just complaining to each other. The project team was under considerable pressure to lower the project's several losses. Overall, team members displayed a high degree of anxiety about the pressure to reduce costs, open conflict and disagreements. Many reported that project team members use words like “try”, “maybe”, and “should work”, “that is the plan”, but no one uses promises or commitments. This low quality of communication contributed to the low level of trust and the unreliability of promises made. Low-quality communication is characterised by vague requests, the avoidance of difficult conversations, and conversations that remain stuck in possibilities without progressing to action (Flores, 2013).

Prior to the workshop, the researcher provided a briefing to participants through the owner's project manager on the workshop's content and its focus on communication, listening, moods, and trust, including the format being a mix of lectures and exercises, and that will be linked to participants' experiences. The owner project manager provided this briefing to participants as part of the invitation. Hence, they knew they would be doing exercises exploring communication and trust in the project when they came into the workshop. Both cohorts had their workshop in the same space: a large conference room in an older building. The room featured one long table with a large-format television, on which the workshop PowerPoint presentation was displayed. Potential team actions that could help the team improve trust were discussed and agreed upon, as shown in Table 4.

Table 4: Domains of trust and potential team actions discussed in workshops

Potential Action Raised by Workshop Participants	Trust Domain Addressed (Solomon and Flores, 2001)
Weekly check-in conversations to raise topics early before they become bigger problems.	Sincerity
Document requests and commitments in meetings to make promises more public.	Reliability
More 1:1 check-ins with team members to give them space to discuss issues.	Care
Provide training on some of the ongoing technology issues that the team is experiencing.	Competency

The seating was not assigned, and the participants could choose where they sat. A few participants reported being cold in both cohorts, with temperature management discussions that were slightly distracting. Participants reported that they had new skills to build, maintain, and repair trust, and many reported that it was a skill they did not have before the workshop. As the workshops progressed and the conversations became more practical, participants opened up

more about project concerns, indicating a rising level of trust in each other. This also had an influence on the quality of requests that were made. The team dynamics that were observed during the workshops have been summarised in Table 5. During a comprehensive debrief after one of the exercises, many of the participants commented publicly on an increased sense of trust, as represented in this quote: *“If we can have these types of frank and direct conversations about each other, then I am confident that very little will go unsaid within the team,”* - General Contractor Project Manager.

Table 5: Team dynamics observed in the workshop

Key Issue	Key Observations of Team Dynamics in the Workshop
Level of trust between team members	All participants were engaged, open to sharing, and expressed value in the exercises during debriefs.
	Participants sat next to people from their own company when initially coming into the room, but moved around more as the workshop progressed and appeared more comfortable speaking with people they didn't work with.
	Participants seemed apprehensive in the beginning, but after the first exercise and sharing, they settled in and opened up more about their concerns for the project.
	One participant requested a private meeting with the facilitators because she felt she could trust them based on the conversations they were producing in the room.
Quality of communication between team members	The assessment exercise revealed that many are uncomfortable having difficult conversations.
	Participants spoke about avoiding difficult conversations and were apprehensive about giving negative assessments to teammates.
	Participants struggled to deliver negative assessments to each other.
	Participants struggled to listen to positive assessments about themselves and appeared physically uncomfortable.
Clarity of request made	Team members practised making clear requests in the exercises and shared how they could benefit from this in their work.
The reliability of promises made	Team members practised negotiating promises and learned about the elements of a successful promise. They shared with each other how they could spend more time negotiating promises instead of just saying yes.
Meeting Effectiveness	Participants were energised to use the workflow loop to produce more effective conversations in meetings.
	Participants shared how in meetings they often talk at length, but they now realise, after learning about the workflow loop, they rarely close conversations with a commitment to take action.

Participants all agreed that the overall quality of communication on the project could have been better pre-workshop, and the initial exercises in the workshop revealed that the team lacked the necessary skills to engage in effective conversations that produce action. In the workshop's early discussion, many participants considered communication a series of inputs and outputs about exchanging information. Participants appeared uncomfortable early in the workshops having difficult conversations, but there was a noticeable improvement in the quality of

conversations in the workshops after the AWL was introduced. The introduction of the AWL to the participants increased awareness of where conversations were breaking down on the project. Participants began to recognise that critical elements were missing in many of the team conversations, especially the lack of clear requests and negotiation of the CoS needed to produce a reliable commitment. As the workshops progressed, it was clear that participants made more explicit requests in the exercises within the workshops and could identify where something was missing in the commitment conversations by using Flores's Action Workflow Loop (Flores, 2013) as a diagnostic tool. A typical, unclear request would be "Could somebody make sure we have better coffee next time?" to a more explicit request like "Bill, could you please get Starbucks medium roast coffee for our next session?"

A theme of conversation in both cohorts was that managing activities as leaders is an exhausting and ineffective way to lead teams. Many participants shared that when project leaders were overly concerned about the activities, it led to micro-management. As the participants progressed and learned new skills around securing commitments, the leaders shifted their perspective from managing activities to managing outcomes. They recognised that due to the lack of negotiation in project conversations and meetings, promises either had not been included or were misaligned with the desired outcome of one party. This resulted in missing deadlines and poorly coordinated handoffs. Both cohorts also discussed the imprecise language around project commitments, which led to a misunderstanding between the speaker and listener about whether a promise existed. The AWL demonstrates the importance of making an explicit request to open the conversation about the CoS. Aligning the CoS produced a more reliable commitment from team members, as illustrated by one of the participants: *"Now that I have been introduced to the Loop, I can see where we are missing important requests on the project that would move us from talking to action."* - General Contractor Project Manager

This improvement in communication and hence team dynamics which is supported by the survey responses in Table 6 could be linked to an increase in psychological safety, which Edmondson (1999) refers to as the shared belief within a team that individuals can express themselves, take interpersonal risks, and share their thoughts and ideas without fear of negative consequences. A supportive conversational environment can promote psychological safety, allowing team members to express their ideas and concerns without fear of negative repercussions (Akan, Jack and Mehta, 2020). Current research on communication on construction projects has been predominantly through the lens of technology (see Zhao et al., 2015; Nascimento et al., 2018). This technology-centric focus misses the importance of developing the underlying skills and practices needed to utilise the technology in enhancing communication, for which this study bridges the gap. Also, previous lean construction studies that have applied the LAP have tested this mostly within the context of implementing specific lean tools, such as the Last Planner System (Zegarra et al., 2013; Zegarra & Alarcón, 2013). However, within-case findings, Case One offers some evidence that the LAP can be used as a structured framework to help project team participants develop the softer skills for improving communication and team dynamics during projects. LAP focused training can provide the skills for project participants to improve the level of trust, quality of communication, clarity of requests, reliability of promises and meeting effectiveness.

Table 6: Results on critical domains of team dynamics from pre- and post-workshop surveys

Key Domains of Team Dynamics	Average response from pre-workshop survey on a scale of 1-5, with one being the lowest and five being the highest	Post-Workshop average response on a scale of 1-5, with one being the lowest and five being the highest	Change in reported results from the pre-workshop average.
Level of trust between team members	2.56	4.33	+1.77
Quality of communication between team members	2.48	4.33	+1.89
Clarity of request made	2.56	4.11	+1.54
The reliability of promises made	2.44	3.89	+1.45
Meeting effectiveness	2.56	3.78	+1.22

CONCLUSION

This case study provided valuable insight into how teams can improve trust and communication on projects by building new skills and practices informed by the LAP. The LAP focused workshops brought the project team a new level of awareness around communication, trust, and moods. Participants were introduced to practical tools, including the AWL, distinctions between assessments and assertions, and the use of speech acts such as requests, offers, and promises. Insights from the within case results for case study one reveals the potential that training construction teams in LAP concepts, including speech acts, conditions of satisfaction, trust, and moods, can have in transforming their everyday conversations into mechanisms for generating accountability and aligning team actions. These new skills helped team members better structure conversations, negotiate clearer agreements, and make more reliable commitments. Team members became more aware of how their language impacted others and began adopting more structured conversational practices that supported better coordination and accountability. The study is not without limitations. The above findings only reflect a single case and cannot be generalised. Also, the survey measures only indicate participants' perceptions from a small sample that is not statistically significant. Furthermore, the observations post-workshop could have been followed up over a longer period to evaluate how effectively participants were able to maintain the improvements in communication and team dynamics. These are all avenues for future research.

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