Special Education Teachers' Perceptions of Video Modeling for Enhancing Cognitive Skills in Students with Intellectual Disabilities: Evidence from Faisalabad, Pakistan

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ABSTRACT: Video modeling is a well-established evidence-based practice for teaching skills to learners with intellectual disability, yet most evidence derives from well-resourced Western settings, and little is known about how teachers perceive it in low-resource contexts. This descriptive cross-sectional survey examined the perceptions of 50 special education teachers in Faisalabad, Pakistan, using a validated 20-item questionnaire organised into four subscales. All items were endorsed above the scale midpoint, with traditional video modeling rated highest for gaining attention. Crucially, perceived benefits and perceived barriers were endorsed at almost equal strength, differing by only 0.124 scale points. Apparent differences by qualification disappeared once response style was controlled, and barrier perception did not vary by sector. Findings suggest that the principal constraint on adoption is structural rather than attitudinal, implying that resourcing, not persuasion, is the more effective lever for supporting implementation.

KEYWORDS: Video Modeling, Intellectual Disability, Special Education Teachers, Cognitive Skills, Teacher Perceptions, Pakistan

Pages: 146 – 158
Volume: 5
Issue: 8 (August 2026)

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Cite this Article: Yousaf, B., Zia, M. U., & Munir, B. (2026). Special Education Teachers' Perceptions of Video Modeling for Enhancing Cognitive Skills in Students with Intellectual Disabilities: Evidence from Faisalabad, Pakistan. *The Regional Tribune, 5*(8), 146-158. https://doi.org/10.55737/trt/v-viii.392

Introduction

Intellectual disability (intellectual developmental disorder), as described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR), is a disorder with onset during the developmental period characterised by difficulties in thinking, reasoning, academic learning, and learning from experience, together with deficits in adaptive functioning (Munir, 2023). Cognitive skills constitute one of the core domains affected, encompassing impairments in memory, thinking, and problem-solving (Shree & Shukla, 2016). These skills refer to the mental processes involved in acquiring knowledge through perception and reasoning, and abilities such as working memory, processing speed, and long-term memory play an important role in children's learning (Van der Fels et al., 2015).

Various strategies have been developed to improve cognitive functioning among intellectually disabled students, with the goal of improving executive functioning, memory, attention, and problem-solving. These include game-based learning, storytelling, video games, and different types of cognitive training like virtual reality exercises, reasoning games, and digital tools (Pasqualotto et al., 2021). Throughout special education, video modeling has become a key approach to teaching the skills of students with disabilities (da Silva Moro et al., 2022).

Video modeling (VM) is a process that involves watching a video of a skill or behaviour and then imitating it (Bellini & Heck, 2020). Studies have shown that visual modelling can assist students with disabilities in acquiring a variety of skills (Corbett & Abdullah, 2005). It is based on observational learning in which the individual observes the behaviours of people and tries to imitate them (which is based on Bandura's (1977) social cognitive theory of observational learning through modelling (Özerk & Özerk, 2015).

Video modeling has been shown to be effective with children and adults, for a variety of skills (social, interpersonal, academic, and employment skills), and for reducing behaviour problems (Sefah, 2023). Children with intellectual disability can benefit from this especially because they can watch the target behaviours being modelled in a video and practise and imitate these behaviours (Aykut et al., 2014). It is considered an evidence-based approach for children aged 3-14 years, when teaching communication, social, play, academic, adaptive, and vocational skills (Steinbrenner et al., 2022). There are a number of variations such as basic (traditional) video modeling, video self-modeling, point-of-view modeling, and video prompting, all of which rely on observing and imitating skills for skill development (Harris, 2006).

Despite this rich database, the overwhelming amount of sources comes from high-resource settings in the Western world where reliable electricity, playback equipment, editing software, and preparation time are reasonable assumptions. Where those conditions do not exist, evidence of efficacy in those conditions is not proof of adoption, or adoption faithfully. Adoption by teachers: a strategy is adopted when practitioners believe that it is effective and appropriate and is possible given the constraints they experience in the classroom. Therefore, teacher perception plays a determining role in implementation and is not a mere by-product. In Pakistan, however, where special education is provided by both government and private schools with widely varying levels of resources, there is little systematic data on how teachers perceive video modeling, the most effective forms of video modeling, or barriers to using video modeling. The present study fills this gap.

Statement of the Problem

Perceived benefit and perceived barrier are often seen as two sides of the same attitudinal coin; that is, teachers who agree with a given strategy will not also report high levels of perceived barrier to implementing that strategy. But if, as is possible to imagine, endorsement and barrier perception can be separated in reality, if teachers can endorse a strategy while at the same time perceiving it as a barrier, then professional development that focuses exclusively on convincing teachers of a strategy's benefits is aimed at the wrong constraint. The present study thus took a closer look at special education teachers' perceived effectiveness, perceived benefits, perceived barriers, and overall perceived value of video modeling in cognitive skill development of students with intellectual disability in Faisalabad, Pakistan, considering them as separate dimensions and investigated their variations based on institutional sector and academic qualification.

Objectives of the Study

1. To identify which video modeling strategies — traditional, self, peer, contextual, and prompting — special education teachers perceive as most effective for developing cognitive skills in students with intellectual disability.
2. To examine teachers' perceptions of the cognitive and behavioural benefits associated with video modeling.
3. To determine the barriers teachers perceive in implementing video modeling in the classroom.
4. To explore whether teachers' perceptions differ by institutional sector and academic qualification.

Research Questions

1. Which video modeling strategies do special education teachers perceive as most effective for developing cognitive skills in students with intellectual disability?
2. What cognitive and behavioural benefits do teachers attribute to video modeling?
3. What barriers do teachers perceive in implementing video modeling in the classroom?
4. Do teachers' perceptions differ significantly by institutional sector or academic qualification?

Literature Review

Cognitive skills are significant for kids with intellectual disability as they are the foundation of communication, problem-solving, social interaction, learning, and adaptive functioning. Some of these are related to attention, memory, reasoning, social cognition and executive functioning, while abilities like planning, organisation and self-control are important for task completion and daily functioning (Diamond, 2013; Jacobs et al., 2020). Researchers have investigated a variety of methods to develop these skills: structured teaching, structured environment, visual schedules and organised routines; cognitive-behavioural interventions, focusing on self-awareness and problem-solving (Hofmann et al., 2012; Mesibov et al., 2004). Video modeling has also been found to be an intervention that can help to facilitate cognitive functioning in this population.

Previous studies have shown the effectiveness of video modeling with a variety of skills across a wide variety of individuals with developmental disabilities, such as interpersonal interaction, oral responding, prosocial behaviour, purchasing and daily living skills (Shipley-Benamou et al., 2002). There are two mechanisms that are generally suggested. The first advantage of video modelling is that learners have a visual presentation of the desired behaviour, which they can watch multiple times, facilitating understanding and retention (Corbett & Abdullah, 2005). Second, the dynamism of the video can help increase learner motivation and engagement, especially for students with deficient attention or text processing skills (Mayer, 2024).

Video modeling has also been studied to promote academic/cognitive skill development. It was reported in the teaching of mathematics curriculum to students with learning impairments (Satsangi et al., 2019), and visual representation introduced during the video instruction was reported to facilitate problem solving in word problems (Gonsalves & Krawec, 2014). In addition to specific skills, video modeling can encourage observational learning, improve attention and concentration, and foster problem-solving and critical thinking by presenting diverse strategies and scenarios from the real world (Oliech, 2023). There have been a variety of strategies studied, each having unique applications (Charlop-Christy et al., 2000): traditional video modeling, video self-modeling, peer video modeling, contextual video modeling, and video prompting. Comparative studies indicate that they are not equivalent: Video prompting can be more effective than whole-sequence modeling with longer, multi-step tasks (Cannella-Malone et al., 2006).

The overall findings of prior research indicate that video modeling can be used effectively across all domains of cognitive, academic, social, and functional skill development in individuals with developmental disabilities and that there is reliable evidence of acquisition and maintenance effects (Bellini & Akullian, 2007). Much less explored and understood is how teachers, who are responsible for the actual implementation of the strategy or not, think of its relevance and feasibility, especially in the context of low-resource countries like Pakistan. The present study aims to fill this gap.

Methodology

Research Design

A quantitative, descriptive cross-sectional survey design was used. The appropriateness of this design was warranted because the study aimed to record the teachers' current perceptions as they happen in practice without changing variables or implementing an intervention.

Population and Sample

The target population of this study is the teachers of special education schools and special education centres of the government and private sector in Faisalabad, Pakistan. The researcher selected 50 teachers from schools which he could reach and who were willing to be sampled for the study: this is a convenience sample. The characteristics of the samples are given in Table 1.

Instrument

The data were collected using a self-developed questionnaire that included items from a demographic section as well as 20 statements rated on a five-point Likert scale (5 = Strongly Agree; 4 = Agree; 3 = Undecided; 2 = Disagree; 1 = Strongly Disagree).

Content Validity: Faculty and subject area experts evaluated each item for relevance, clarity, and comprehensiveness of coverage on the item pool. Changes were made to items in response to their feedback before administration.

Subscale Structure: For analysis, the 20 items were assigned to four conceptually derived subscales on the basis of item content:

Subscale	Construct measured	Items	k	α
A	Perceived effectiveness of specific VM strategies	1, 2, 3, 4, 12, 19, 20	7	.893
B	Perceived cognitive and behavioural benefits	5, 6, 8, 10, 13, 16, 17	7	.890
C	Perceived implementation barriers	9, 14, 15	3	.787
D	Overall and comparative value	7, 11, 18	3	.707

This structure is rational and expert-informed, rather than empirically derived, and is based on a small sample size (N = 50). The items in subscale C were not reverse scored because the fact that someone agrees that there is a barrier is also a barrier in itself. Thus, a high score in Subscale C suggests high perception of barriers.

Reliability. Cronbach's alpha (reported above) was used as an index of internal consistency for each subscale. The four sub-scales were all at or above the conventional .70 level. The value calculated for Subscale C is especially noteworthy because it only includes 3 items, because in short scales the alpha is structurally weakened, and because there is strong cohesion of the barrier items that makes it possible to consider barriers as a separate dimension.

Data Collection Procedure

Survey forms were handed out in the form of a hardcopy questionnaire. The researcher went to each of the participating institutions, introduced himself/herself to them, informed them of the purpose of the study, promised them anonymity and confidentiality, and gave questionnaires to be filled by the respondents in their own time before the researcher could pick them up. There were no missing responses on any item of the 50 questionnaires distributed that were returned.

Data Analysis

SPSS 26 was used in analysing the data. The sample was described in terms of frequencies and percentages. Means and standard deviations were calculated at the item level, and items were ranked by mean scores. Subscale scores were calculated as the average of the items in the subscales, and the internal consistency of the subscales was reported in Section 3.3.

Group comparison was conducted using non-parametric procedures due to the small group sizes and unequal group sizes, and the ordinal nature of the subscale scores. Where the omnibus test was significant, the Mann–Whitney U test was used to compare the public- and private-sector teachers, and the Kruskal–Wallis H test was used to compare teachers across the three qualifications, with Bonferroni-adjusted pairwise comparisons. The effect size for Mann–Whitney tests was calculated as $|z| / \sqrt{N}$ and for Kruskal–Wallis tests as $\varepsilon^2 = H / (N - 1)$.

Group comparisons are reported as exploratory. No family-wise correction was applied to the 8 comparisons performed, and uncorrected significance values are reported with effect sizes; results are interpreted accordingly.

Ethical Considerations

There was voluntary and anonymous participation. Data were collected with no identifying information recorded; the data would only be used for research purposes, and institutional permission was sought before data collection.

Data Analysis and Results

Sample Characteristics

Table 1

Demographic Characteristics of Respondents (N = 50)

Variable	Category	f	%
Gender	Male	5	10.0
	Female	45	90.0
Age (years)	26–30	39	78.0
	31–35	4	8.0
	36–40	4	8.0
	41–45	3	6.0
Qualification	B.Ed	22	44.0
	M.A	17	34.0
	M.Phil.	11	22.0
Experience (years)	0–5	34	68.0
	6–10	11	22.0
	11–15	5	10.0
Sector	Public	9	18.0
	Private	41	82.0

The sample was predominantly female (90%), early-career (78% aged 26–30; 68% with five years' experience or less) and drawn largely from the private sector (82%).

Item-Level Perceptions

Table 2

Item Means, Standard Deviations, and Rank Order (N = 50)

Rank	Item	Statement (abbreviated)	Sub.	M	SD
1	1	Traditional VM effective in gaining attention	A	4.20	0.969
2	10	Students retain information better through VM	B	4.10	0.931
3	11	VM is a valuable teaching tool	D	4.06	0.843
4	2	Video self-modeling enhances retention	A	4.04	0.903
4	6	Variety of VM strategies aids cognitive development	B	4.04	0.947
6	5	Visual prompts amplify learning effectiveness	B	4.00	1.030
7	3	Peer VM boosts classroom engagement	A	3.98	0.845
7	12	Prompting VM supports task completion	A	3.98	0.958
9	8	Students respond positively to seeing themselves	B	3.90	1.093
10	14	Challenges and barriers are faced in the classroom	C	3.88	0.940
11	16	VM improves students' attention spans	B	3.86	1.107
12	4	Contextual VM aids real-life application	A	3.82	0.941
13	9	VM is too time-consuming to implement	C	3.80	1.107
14	7	Traditional VM suits all learning styles	D	3.76	1.098
15	13	Vibrant colours attract students' attention	B	3.72	1.089
16	18	VM is more effective than traditional methods	D	3.70	1.074
17	20	Prompting VM aids generalization across settings	A	3.68	1.203
18	17	VM reduces behavioural issues	B	3.66	1.118
19	15	VM often leads to disruptive behaviour	C	3.64	1.139
19	19	VSM is superior to other VM strategies	A	3.64	1.083

The results for all 20 items were above the midpoint of the scale (3.00), suggesting generally positive endorsement. The range for the item was 0.56 scale points, from 3.64 to 4.20. Traditional video modeling for capturing learners' attention (M = 4.20) and enhanced learner retention (M = 4.10) rated second, with video modeling generally as a teaching tool (M = 4.06). The lowest-rated items were those about the superiority of video modeling over conventional teaching methods (M = 3.70, rank 16) and the superiority of video self-modeling over other video modeling variants (M = 3.64, rank 19). The ratings for claims of generalisation across settings were also relatively low (M = 3.68, rank 17) and with the highest variance between scores for any item (SD = 1.203).

Subscale Scores

Table 3

Subscale Descriptive Statistics (N = 50)

Subscale	k	M	SD
A — Perceived effectiveness of VM strategies	7	3.91	0.774
B — Perceived cognitive/behavioural benefits	7	3.90	0.812
C — Perceived implementation barriers	3	3.77	0.892
D — Overall and comparative value	3	3.84	0.803

Perceived effectiveness (M = 3.91) and perceived benefits (M = 3.90) were highest, and overall value (M = 3.84) was second highest. Interestingly, perceived barriers were endorsed at a similar level (M = 3.77, 0.13 scale point lower than perceived benefits). Teachers therefore were not required to sacrifice endorsement for lack of difficulty: having strong agreement about the effectiveness of video modeling in teaching was accompanied by strong agreement that video modeling was impeded in teaching.

Finally, perceived barriers had the highest coefficient of variation (SD = 0.892) of all four subscales, suggesting that there was a wider range of perceived barriers among teachers than there was of perceived effectiveness of video modeling (SD = 0.774).

Differences by Institutional Sector

Table 4

Mann–Whitney U Comparisons by Sector

Subscale	U	W	z	p (asymp.)	p (exact)	r
A	123.5	984.5	−1.549	.122	.125	.22
B	123.5	984.5	−1.547	.122	.125	.22
C	159.5	1020.5	−0.639	.523	.534	.09
D	147.0	1008.0	−0.959	.338	.356	.14

Note: U = Mann–Whitney U; W = Wilcoxon W; r = effect size. df applies to the asymptotic test. No comparison was statistically significant.

The t-test analysis did not reveal any significant difference between public and private sector teachers in any of the subscales. This is also because the effect sizes were small throughout (r = .09–.22) and given the significant imbalance in group size (9 vs 41), these non-significant results should be interpreted as inconclusive rather than as evidence that differences between the sectors are not present.

Differences by Academic Qualification

Table 5

Kruskal–Wallis Comparisons by Qualification

Subscale	H	p	ε^2
A	0.937	.626	.019
B	6.524	**.038**	.133
C	9.107	**.011**	.186
D	2.093	.351	.043

Note: Significant values ($p < .05$) are shown in bold. ε^2 = epsilon-squared effect size.

Moderate effect sizes were found for significant differences by qualification in Subscale B (perceived benefits) and Subscale C (perceived barriers). There were no significant differences between perceived effectiveness of specific strategies (A) or overall value (D).

Table 7

Bonferroni-Adjusted Pairwise Comparisons for Subscales B and C

Subscale	Comparison	Test statistic	z	p	Adjusted p
B	B.Ed – M.Phil	−1.455	−0.271	.786	1.000
B	B.Ed – M.A	−11.492	−2.451	.014	.043
B	M.Phil – M.A	10.037	1.787	.074	.222
C	B.Ed – M.Phil	−0.477	−0.090	.929	1.000
C	B.Ed – M.A	−13.127	−2.823	.005	.014
C	M.Phil – M.A	12.650	2.270	.023	.070

Note: Significant adjusted values ($p < .05$) are shown in bold. Adjusted p-values reflect Bonferroni correction.

In both, the omnibus effect was due to one contrast: that of a teacher who holds an M.A. differed from those with a B by one standard deviation. A. differed from those with a B by 1 standard deviation. However, no other pairwise contrast passed the Bonferroni correction in the case of Ed. Group descriptive statistics (Table 6) show that M. The group with the highest scores on both subscales was the holders, in terms of both perceived benefits (M = 4.25, Mdn = 4.29) and perceived barriers (M = 4.25, Mdn = 4.33).

Table 6

Subscale Scores by Qualification

Subscale	B.Ed (n = 22)	M.A (n = 17)	M.Phil (n = 11)
A	3.88 (3.86)	4.07 (4.29)	3.70 (3.86)
B	3.69 (4.00)	4.25 (4.29)	3.77 (3.86)
C	3.48 (3.67)	4.25 (4.33)	3.61 (3.67)
D	3.68 (3.67)	4.04 (4.00)	3.85 (4.00)

Note: Values are means with medians in parentheses.

The scores for A were highest on each of the four subscales, and A's SD ranges were much lower (.38–.59) than those for B.Ed (.76–.98) or M.Phil (.99–1.03) respondents. This elevation is explored in more depth in Section 4.6, as it extends to the concepts of opposition, both benefits and barriers.

Post-hoc Analysis: Net Endorsement

The results of the subscales on qualification showed that: Subscale scores were checked, and it was found that the dispersion of the scores across the four subscales and the highest score were obtained by A holders, both for perceived benefits and for perceived barriers (constructs that are conceptually opposite). This is an expected trend in the context of a differential response style – a higher score at the upper end of the scale – and not substantively different perceptions of video modeling.

This was examined by calculating a post hoc net endorsement score by subtracting the mean score of the perceived barriers (Subscale B) from the mean score of the perceived benefits (Subscale C). This is a difference score, so there is a cancelling effect of the tendency to use higher or lower scale points.

Table 8

Net Endorsement (Subscale B – Subscale C) by Qualification

Qualification	n	M	Mdn	SD
B.Ed	22	0.203	0.238	0.835
M.A	17	−0.003	0.048	0.449
M.Phil	11	0.160	0.143	0.366
Total	50	0.124	0.095	0.633

Note. Significance values ($p < .05$) are shown in bold where applicable.

Net endorsement was not found to differ between qualification groups on the Kruskal–Wallis test ($H = 1.029$, $df = 2$, $p = .598$, $\varepsilon^2 = .021$). Because the qualification effects on the raw subscores seem to be due to differential scale use rather than to differentiated perception of video modeling, they are not considered evidence of increased teacher perceptions of video modeling.

Also, it is useful to look at the total "net endorsement score" itself. When compared across the entire sample, perceived benefits were only 0.124 scale points higher than perceived barriers (Mdn = 0.095), and this indicates the magnitude of the difference between positive and negative perceptions of video modeling.

Findings

- The respondents were mainly female (90), aged between 26 and 30 (78), having 5 years or less of experience (68), and working in the private sector (82).
- There were above-average perceptions of video modeling for all 20 items, ranging from 3.64 to 4.20.
- The item that received the highest ratings was gaining learners' attention, with traditional video modeling being rated as highest ($M = 4.20$).
- The next most strongly supported perceptions were that of improved retention of information ($M = 4.10$) and that of overall value of video modeling as a teaching tool ($M = 4.06$).
- The lowest ratings were for claims of comparative superiority, with video modeling being better than traditional teaching ($M = 3.70$) and video self-modeling being better than other variants of video modeling ($M = 3.64$).
- The lowest mean score ($M = 3.68$) and the highest standard deviation ($SD = 1.203$) were for perceptions of generalization across settings, showing the least consensus.
- Internal consistency was acceptable to good for all four subscales ($\alpha = .707–.893$; the three-item subscale on the barrier scale had $\alpha = .787$).
- Teachers reported barriers to video modeling ($M = 3.77$) that were similar to perceived benefits ($M = 3.90$), suggesting that teachers' perceptions of barriers and benefits were high at the same time.
- There were no significant differences between the perceptions of public and private sector teachers in any of the perceptions ($r = .09–.22$); the comparisons are inconclusive and not indicative of equivalence because of the large difference in group sizes.

Significant differences by academic qualification were observed for perceived benefits ($H = 6.524$, $p = .038$, $\varepsilon^2 = .133$) and perceived barriers ($H = 9.107$, $p = .011$, $\varepsilon^2 = .186$), but not for perceived strategy effectiveness ($H = 0.937$, $p = .626$) or overall value ($H = 2.093$, $p = .351$).

In both, it was due to the B alone. Ed–M.A contrast, with M. The other pairwise contrasts did not survive correction for multiple comparisons.

M.A. holders were the group with the highest scores on each of the four subscales, including both conceptually opposed benefit and barrier subscales, with dispersion scores much smaller than the other qualification groups.

A post hoc net endorsement score (benefits – barriers) revealed no significant differences across qualification groups ($H = 1.029$, $p = .598$, $\varepsilon^2 = .021$), suggesting that the difference in findings across qualification groups is due to differential response style, not to differential perceptions of video modeling.

Perceived benefits marginally outpaced perceived barriers by 0.124 scale points (Mdn = 0.095) across the entire sample, and there was no difference in perceived barriers by institutional sector ($U = 159.5$, $p = .523$), suggesting that there were robust organizational challenges to implementation across the sample.

Discussion

Teachers showed a positive response to the use of video modeling, with a high rating given to the use of traditional video modeling for gaining learner attention. This is consistent with the account of learning by observation that is the foundation for video modeling (Bandura, 1977) and with meta-analytic findings that learners with developmental disabilities reliably acquire and maintain video modeled skills (Bellini & Akullian, 2007). The least consensus was for endorsement of claims of comparative superiority over conventional teaching, as well as generalization across settings, with endorsement for these two claims being weak. This caution is echoed in the literature: Comparative outcomes of video modeling and video prompting are task-dependent (Cannella-Malone et al., 2006), and generalization is one of the poorest results for video-based instruction.

The result of this study was a near-equality in endorsement of perceived benefits and perceived barriers, with a difference of only 0.124 scale points. The teacher did not get to choose between easy and hard, because he or she possessed both. Barrier perception was homogeneous across institutional sector, and the apparent difference in the sector by qualification was shown to be null when differential response style was controlled — a phenomenon that is well documented in unidirectional Likert instruments (Cronbach, 1946). This places the issue of the constraint in the first-order external barrier (time, equipment, preparation load) and not second-order attitudinal barriers, as identified by Ertmer (1999). The difference is most significant when technology use is constrained, as in other places, external barriers would be more significant for teachers' use of technology, and not diminishing as teachers are supposed to do when the technology is being used in the "better resourced western settings. The implication for practice is that awareness-raising professional development will be more likely to fill in a constraint that is not in operation in this sample, whereas resourcing and workload relief are more likely to be effective levers.

Conclusion

The special education teachers in Faisalabad showed positive attitudes towards using video modeling to improve the cognitive abilities of people with intellectual disability, with all 20 statements above the scale midpoint. The special education teachers in Faisalabad indicated positive attitudes with all the 20 statements above the scale midpoint for using video modeling to develop the cognitive abilities of people with intellectual disability, with traditional video modeling receiving the highest score for gaining learner attention. Endorsement was weaker, however, when referring to claims of comparative superiority over conventional teaching, and when skills are generalized across settings, the areas in which the underlying evidence base is also least settled.

The most important finding of the study was that favourable perceptions did not necessarily correspond to perceived implementation barriers, which were surprisingly similar across the sample, differing by only 0.124 scale points on a 5-point scale. Perception of barriers appeared to be similar by institutional sector, and differences by academic qualification were accounted for by differential response style. There were no reports of teachers needing to be persuaded on the value of video modeling; instead, they reported barriers to implementing video modeling. Given this evidence, not only is the adoption constraint structural, but attitudes toward it are not the constraint; interventions designed to change teacher attitudes have far less likelihood of changing teacher practice without changing conditions of practice.

Recommendations

For Practice and Policy

1. Institutional support for video modeling should focus on conditions rather than promoting the strategy, as teachers in this sample already believed in the strategy.
2. Sharing of video models that have already been produced centrally and shared among institutions would reduce the preparation burden identified as a barrier and enable individual teachers to use the strategy without having to cover the whole cost of production.

3. PD needs to focus on areas of teacher endorsement but uncertainty of evidence (set of areas, especially programming for generalization across settings).

For Future Research

1. Instrument should be modified with reverse-scaled positive items prior to further use. They would allow acquiescence to be identified directly, and their absence here allowed for a response-style effect that could only be identified by post-hoc analysis.
2. A bigger, Probability-Based Sample (PBS) within several districts needs to be replicated. The present sample consisted of convenience sampling from a single city, with disproportionate female and early career/private sector respondents.
3. In order to directly identify the barriers in relation to this, a qualitative and/or mixed-methods enquiry should be undertaken directly, rather than from the three-item scale used in this study.
4. If teachers believe that the cognitive results of their teaching practices under the resource condition prevalent in a typical Pakistani special education scenario are achieved, they must seek to test these perceptions by using experimental or single case designs.

References

Aykut, Ç., Dağseven Emecen, D., Dayı, E., & Karasu, N. (2014). Teaching chained tasks to students with intellectual disabilities by using video prompting in small group instruction. *Kuram ve Uygulamada Eğitim Bilimleri, 14*(3), 1074–1086. http://doi.org/10.12738/estp.2014.3.1984

Bandura, A. (1977). *Social learning theory*. Prentice-Hall.

Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. *Exceptional Children*, *73*(3), 264–287. https://doi.org/10.1177/001440290707300301

Bellini, S., & Heck, O. (2020). Video modeling. In *School-based behavioral intervention case studies* (pp. 76–92). Routledge.

Cannella-Malone, H., Sigafoos, J., O'Reilly, M., De la Cruz, B., Edrisinha, C., & Lancioni, G. E. (2006). Comparing video prompting to video modeling for teaching daily living skills to six adults with developmental disabilities. *Education and Training in Developmental Disabilities*, *41*(4), 344-356. https://doi.org/10.1177/215416470604100404

Charlop-Christy, M. H., Le, L., & Freeman, K. A. (2000). A comparison of video modeling with in vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders*, *30*(6), 537-552. https://doi.org/10.1023/a:1005635326276

Corbett, B. A., & Abdullah, M. (2005). Video modeling: Why does it work for children with autism? *Journal of Early and Intensive Behavior Intervention*, *2*(1), 2-8. https://doi.org/10.1037/h0100294

Cronbach, L. J. (1946). Response sets and test validity. *Educational and Psychological Measurement*, *6*(4), 475-494. https://doi.org/10.1177/001316444600600405

Da Silva Moro, J., Rodrigues, T. D., Kammer, P. V., De Camargo, A. R., & Bolan, M. (2022). Efficacy of the video modeling technique as a facilitator of non-invasive dental care in autistic children: Randomized clinical trial. *Journal of Autism and Developmental Disorders*, *54*(2), 501-508. https://doi.org/10.1007/s10803-022-05820-8

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, *64*(1), 135-168. https://doi.org/10.1146/annurev-psych-113011-143750

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, *47*(4), 47-61. https://doi.org/10.1007/bf02299597

Gonsalves, N., & Krawec, J. (2014). Using number lines to solve math word problems: A strategy for students with learning disabilities. *Learning Disabilities Research & Practice*, *29*(4), 160-170. https://doi.org/10.1111/ldrp.12042

Harris, J. C. (2006). *Intellectual disability: Understanding its development, causes, classification, evaluation, and treatment*. Oxford University Press.

Hofmann, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy and Research*, *36*(5), 427-440. https://doi.org/10.1007/s10608-012-9476-1

Jacobs, E., Simon, P., & Nader-Grosbois, N. (2020). Social cognition in children with non-specific intellectual disabilities: An exploratory study. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.01884

Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review*, *36*(1). https://doi.org/10.1007/s10648-023-09842-1

Mesibov, G. B., Shea, V., Schopler, E., Adams, L., Merkler, E., Burgess, S., Mosconi, M., Chapman, S. M., Tanner, C., & Van Bourgondien, M. E. (2004). *The TEACCH approach to autism spectrum disorders*. Springer US. https://link.springer.com/book/10.1007/978-0-306-48647-0

Munir, K. M. (2023). Intellectual developmental disorder (intellectual disability). In *The SAGE handbook of clinical neuropsychology: Clinical neuropsychological disorders* (p. 149). SAGE.

Oliech, C. G. (2023). *Teaching problem-solving skills as a soft skill for employment to individuals with autism and intellectual and developmental disabilities using video modelling in a virtual learning environment* [Doctoral dissertation] Duquesne University.

Özerk, M., & Özerk, K. (2015). A Bilingual Child Learns Social Communication Skills through Video Modeling--A Single Case Study in a Norwegian School Setting. *International Electronic Journal of Elementary Education*, *8*(1), 83-98.

Pasqualotto, A., Mazzoni, N., Bentenuto, A., Mulè, A., Benso, F., & Venuti, P. (2021). Effects of cognitive training programs on executive function in children and adolescents with autism spectrum disorder: A systematic review. *Brain Sciences*, *11*(10), 1280. https://doi.org/10.3390/brainsci11101280

Satsangi, R., Hammer, R., & Bouck, E. C. (2019). Using video modeling to teach geometry word problems: A strategy for students with learning disabilities. *Remedial and Special Education*, *41*(5), 309-320. https://doi.org/10.1177/0741932518824974

Sefah, E. (2023). Special education teachers' perception of video modeling. https://hdl.handle.net/11274/15146

Shipley-Benamou, R., Lutzker, J. R., & Taubman, M. (2002). Teaching daily living skills to children with autism through instructional video modeling. *Journal of Positive Behavior Interventions*, *4*(3), 166-177. https://doi.org/10.1177/109830070200400306501

Shree, A., & Shukla, P. C. (2016). Intellectual disability: Definition, classification, causes and characteristics. *Learning Community-An International Journal of Educational and Social Development*, *7*(1), 9. https://doi.org/10.5958/2231-458x.2016.00002.6

Steinbrenner, J. R., McIntyre, N., Rentschler, L. F., Pearson, J. N., Luelmo, P., Jaramillo, M. E., Boyd, B. A., Wong, C., Nowell, S. W., Odom, S. L., & Hume, K. A. (2022). Patterns in reporting and participant inclusion related to race and ethnicity in autism intervention literature: Data from a large-scale systematic review of evidence-based practices. *Autism*, *26*(8), 2026-2040. https://doi.org/10.1177/13623613211072593

Van der Fels, I. M., Te Wierike, S. C., Hartman, E., Elferink-Gemser, M. T., Smith, J., & Visscher, C. (2015). The relationship between motor skills and cognitive skills in 4–16 year old typically developing children: A systematic review. *Journal of Science and Medicine in Sport*, *18*(6), 697-703. https://doi.org/10.1016/j.jsams.2014.09.007