



## **From Theory to Classroom: Constructivist Approaches and Their Impact on Teachers' Professional Identity and Work Culture in Delhi NCR**

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### **Abstract**

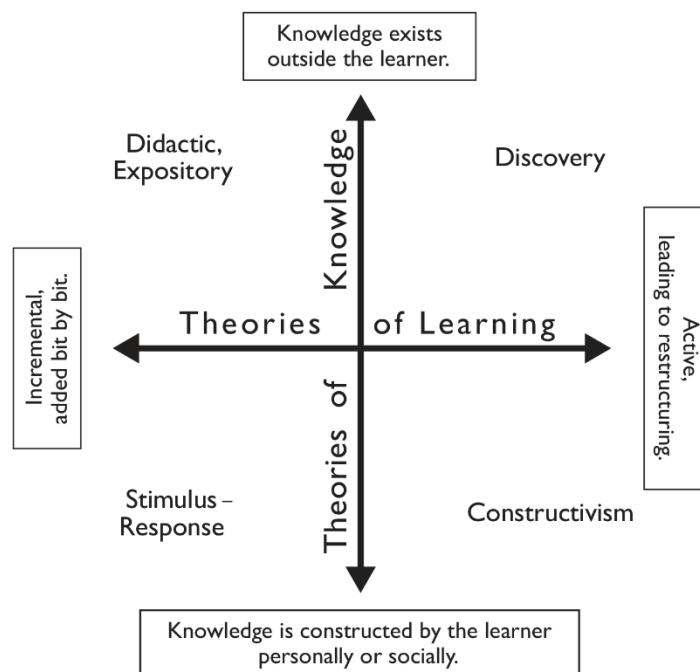
This paper presents the investigation of constructivist practices in secondary school educators with the focus on pedagogical awareness, classroom behaviors, and perceived limitations. Descriptive research design was used and 100 secondary school teachers participated through a structured questionnaire to provide primary data. The results demonstrate that the constructivist pedagogy awareness is quite high, but only half and baked and intermittent in secondary classrooms. Many teachers apply learner-centred strategies and collaborative activities though not very often and inquiry-based learning is still scarce. Intensity of curriculum, exam stress, time limitation and large classes came out as other important elements that affected the pedagogical decisions. The findings indicate that constructivist teaching in the secondary education is usually undertaken in blended ways alongside the classical teaching as opposed to being taken as an overriding method. The paper makes empirical contributions to the research on the quality of teaching and shows how systematic support is needed to enhance meaningful constructivist practices in secondary school classes.

**Keywords:** constructivist pedagogy, secondary school teachers, learner-centred teaching, inquiry-based learning, teaching practices

### **Introduction**

The role of constructivist approaches has also been growing in the more recent discourse on teaching in secondary schools, with a reaction against transmission based approaches to instruction in favour of learner-centred approaches to teaching. Constructivism is based on theoretical works by Piaget and Vygotsky and considers learning as an active process where students are expected to build their knowledge as they interact with material, other students and teachers instead of passively accepting information. Constructivist strategies are generally discussed as pedagogically sound and developmentally valid in secondary schools where higher order thinking, problem-solving skills and subject knowledge are supposed to be cultivated (Fosnot, 2016; Schunk, 2020).

Figure I



Design The recent studies on education point out that the constructivist approach to teaching in high schools is characterised by the promotion of inquiry-based learning, team work, reflective conversation and how previous learning is applied in classroom learning. The teachers who embrace such practices are framed as facilitators that create learning spaces that promote exploration and questioning and meaning-making instead of being the single source of standardized information (Darling-Hammond et al., 2020). Empirical research indicates that constructivist practices have the potential to improve the engagement of students, conceptual understanding and motivation, especially in those areas where abstract concepts are advantageous to discussion and practice, including science, mathematics and social sciences (Hattie, 2017; Krajcik and Shin, 2019).

Simultaneously, constructivist practices in secondary schools are influenced by the contextual factors such as curriculum pressures, testing, classroom size and teacher preparation. According to the research, although most teachers working in secondary schools have a positive attitude to constructivist pedagogy, the classroom behaviors tend to be characterized by a combination of traditional and constructivist ones because of the pressure related to exams and the lack of institutional support (Tondeur et al., 2017; OECD, 2019). These tensions are even compounded in the developing and transitional education systems by inflexible syllabi and performance based accountability systems.

It is against this context that it is important to explore constructivist approaches amongst secondary school teachers in order to comprehend how pedagogical ideals can be applied to daily practice. This kind of analysis is relevant to wider discussions about the quality of teaching, student autonomy and enabling students to navigate and learn the complex social

and knowledge economies, and constructivism has become a key topic of study in the research of secondary education (Biesta, 2018; Schweisfurth, 2015).

Feature	Traditional Classroom	Constructivist Classroom
Objective	Provide accurate answers	Encourage discussion and ideas
Working Style	Students work independently	Students work independently, in groups, or with partners
Decision-Making	Instructors have the final say	Shared between teacher and students
Assessments	Assessments are part of the examination; they are separate from learning tasks.	Conferences, daily work, portfolios, and assignments
Study Material	Workbooks, worksheets, and basic readers.	Books, real-world scenarios, journals, and workshop methodology.

### Need of the Study

The necessity of the current research is explained by the increasing awareness of the fact that the secondary school should not be focused on rote learning and teaching centered on exams but rather on the pedagogical models that encourage critical thinking, problem-solving and conceptual knowledge. Constructivist courses are very popular in curriculum models and teacher training courses, but there is research evidence to the effect that these classes cannot be consistently and evenly implemented in the secondary level. Studies show that teacher-centred methods of instruction are also widely used by teachers in secondary schools even though they have recognised the theoretical importance of learner-centred and inquiry-based methods (OECD, 2019; Schunk, 2020). Such a disjunction between pedagogical theory and practice explains the necessity of systematic research into the factors of the cognition and practice of constructivist methods by secondary school teachers.



Moreover, specialisation of the subject, intensive curriculum and high-stakes assessment systems in secondary education pose special challenges to teachers in terms of their willingness and ability to use constructivist strategies (Biesta, 2018; Darling-Hammond et al., 2020). Current literature tends to concentrate on primary education or pre-service teacher beliefs or there is relative dearth in the empirical research on in-service secondary teacher pedagogical practice, especially where the school is diverse. Even little evidence is based on primary data, that portrays the opinion of teachers, classroom practice and contextual impediment to constructivist teaching. Consequently, the research is required to come up with empirical material relating to the scope, nature and the difficulties of constructivist practices in teacher of secondary schools. This kind of evidence is capable of informing teacher professional growth; curriculum change and assessment change to enhance meaningful learning experiences in the secondary education.

### **Scope of the research**

The range of the current study is limited to a discussion of constructivist strategies that are embraced by secondary school educators in learning settings. The paper concentrates on the major aspects of constructivist pedagogy such as learner centred methods of instruction, application of previous knowledge, group based learning process, inquiry based learning activities and the teacher as an enabler of education. Primary data will be taken to obtain the perceptions, attitudes and self-reported classroom practices of teachers in regards to constructivist teaching. The study does not seek to make comparative analysis across education boards or the evaluation of student achievement outcomes, which is further not extended to education levels of less than 12 and higher. By focusing more on the in-service secondary school teachers, the paper is expected to offer a contextual and practical meaning to the constructivist principles as applied in the limitations of the secondary school classrooms.

### **Literature Review**

The educational theory and research on constructivists in both teaching and learning methods has been extensively discussed especially in connection with its possible role in fostering profound knowledge, critical thinking and independence in learning. Constructivism is based on the premise that learning is a construction by the learners based on interaction with their environment, social interaction and reflection on the past experiences. Constructivist pedagogy is considered particularly applicable in secondary education, where students need to work with more abstract ideas and disciplinary knowledge, and in this regard, it is possible to develop higher-order thinking skills and conceptual coherence (Fosnot, 2016; Schunk, 2020). In the sphere of the scholarly discourse of the present day, it is stressed that constructivism is not a specific method but a general pedagogical direction that includes inquiry-based education, problem-solving, cooperative work and contemplation.

An important amount of literature identifies the pedagogical worth of constructivist methods in the setting of a secondary classroom. Research in science and mathematics education indicates that guided inquiry, project-based learning and conceptual discussion are constructivist strategies that improve the knowledge of students through connecting new



material to the existing knowledge structures (Krajcik and Shin, 2019; Hmelo-Silver, 2017). The social sciences and language education research also points to the fact that meaning-making and the critical engagement with the content is supported by discussion-based learning, peer interaction, and contextualised tasks (Alexander, 2018; Mercer and Howe, 2019). These results support the perception that teaching in constructivist is linked with enhanced engagement and conceptual distinction as opposed to content coverage.

The teaching and learning approaches based on constructivist have been the focus of extensive discussion in educational theory and research especially in regard to their possible contribution to the development of profound knowledge, the capacity to think critically and independently on the part of the learner. Constructivism is based upon the presupposition that knowledge is actively developed by learners during their interaction with the surrounding, social discourse and reflection on their previous experience. Constructivist pedagogy is considered particularly relevant to the development of higher-order mental abilities and conceptual integrity in the context of secondary education where students work with less practical and more abstract concepts and disciplinary knowledge (Fosnot, 2016; Schunk, 2020). Modern academia underlines that constructivism does not constitute a single approach but is a general teaching philosophy that includes: inquiry based learning, problem solving, collaborative activities and reflective practices.

There exists a substantial research indication on the pedagogical importance of constructivist practices in classes in secondary schools. The science and mathematics education literature indicates that guided inquiry, project-based learning, and conceptual discussion are constructivist strategies aimed at improving the knowledge of learners by connecting new material to knowledge systems (Krajcik and Shin, 2019; Hmelo-Silver, 2017). Social science research and language teaching research studies also show that discussion-based learning, contextualised tasks, and peer interaction help students to make meaning and critically engage with the material (Alexander, 2018; Mercer and Howe, 2019). These results support the notion that constructivist instruction is linked to better interaction and conceptual clarity as opposed to content coverage.

Technology integration has emerged as an important dimension of constructivist pedagogy in secondary education. Digital tools and online platforms are increasingly used to support collaborative learning, problem-solving and student autonomy. Studies indicate that technology-enhanced constructivist environments can facilitate inquiry-based learning and personalised exploration when aligned with pedagogical goals (Voogt et al., 2018). However, the literature cautions that technology alone does not guarantee constructivist learning outcomes; its effectiveness depends on teachers' pedagogical intentions and their ability to design meaningful learning tasks (Tondeur et al., 2017). This reinforces the central role of teacher agency in shaping constructivist classrooms.

Cross-cultural and comparative studies further illustrate that the adoption of constructivist approaches varies across education systems and cultural contexts. Research from both developed and developing countries suggests that constructivist pedagogy is often mediated by local norms regarding authority, classroom interaction and student participation



(Schweisfurth, 2015). In contexts where teacher authority and examination performance are highly valued, constructivist practices may be adapted rather than fully implemented, resulting in hybrid pedagogical models. Such findings underscore the importance of understanding constructivism as a contextual practice rather than a universally applied model. The literature indicates that constructivist approaches in secondary education are widely endorsed in theory and policy but unevenly realised in practice. While research demonstrates clear pedagogical benefits, significant challenges remain related to teacher beliefs, curriculum constraints, assessment pressures and professional support. There is a notable need for empirical studies based on primary data that examine how secondary school teachers interpret and enact constructivist principles within their specific contexts. Addressing this gap is essential for informing teacher education, professional development and policy reforms aimed at fostering meaningful and sustainable constructivist teaching practices in secondary schools.

### **Methodology**

This is due to the fact that the study follows a descriptive research design that utilizes primary data to investigate the level and essence of constructivist approaches adopted by teachers working in secondary schools. The sample of 100 secondary school teachers was used to obtain the data on their perceptions, attitudes, and self-reported classroom practices regarding constructivist pedagogy. The primary data collection instrument was a structured questionnaire which included the items that were learner-centred teaching strategies, working with prior knowledge, collaborative learning, inquiry based activities and activity of teacher as a facilitator. The questionnaire was conducted in direct and assisted response in order to make the questions clear and accurate regarding information. The data obtained were also analysed through rudimentary descriptive methods to establish the existing patterns and trends in the acceptance of constructivist methods. The methodology allows one to understand the practice of constructivist teaching in the conditions of practical activity of working in a secondary school classroom without referring to experimental or result-based evaluation.

### **Results and Discussion**

The findings derived of the primary data gathered on 100 secondary school teachers would give an insight into the degree to which constructivist approaches are perceived, appreciated and implemented in classroom instruction. In general, the results indicate the generally optimistic attitude to constructivist pedagogy at the attitudinal level but inconsistency in practice in the classroom.



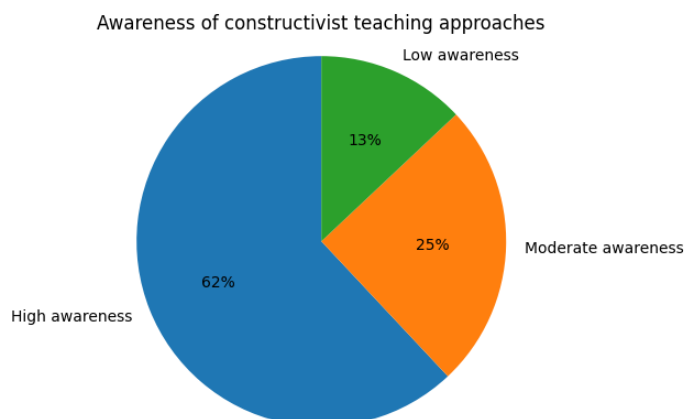


Figure 1 reflects the level of awareness of constructivist teaching method by teachers. The chart indicates that most people (62 per cent) were aware of constructivist pedagogy with high awareness levels with 25 per cent of medium awareness and 13 per cent of low awareness. This implies that the constructivist ideas are well known in the secondary school teachers.

A high percentage of the teachers expressed their knowledge of learner-centred ideas like active learning, use of prior knowledge and student participation, which shows that constructivist ideas are now visible in the teacher education programme and professional discourse. The richness and consistency with which these ideas were transferred into practice varied between respondents, however.

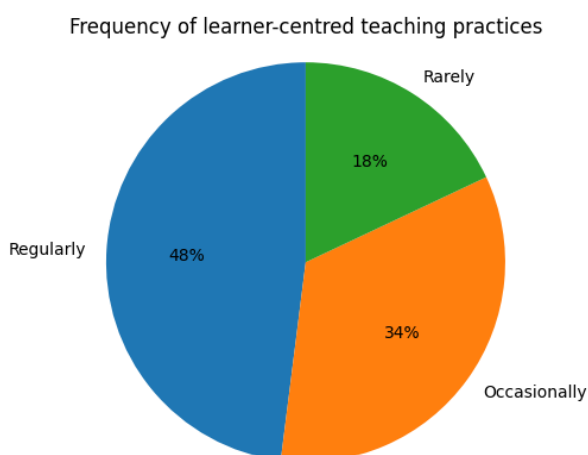
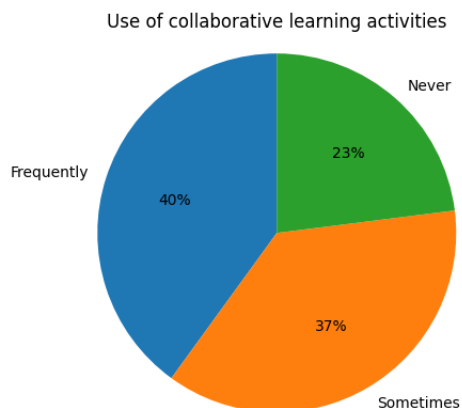


Figure 2 demonstrates the frequency of learner-centred teaching practices. Almost half of the respondents (48 per cent) said they adopted learner-centred strategies on a regular basis, 34 per cent did them occasionally and 18 per cent did it rarely, suggesting that the constructivism approach was partially integrated.

On the factor of instructional strategies, the majority of teachers reported that they frequently promote questioning, discussion and student participation in the classroom during the lesson. One of the main constructivist principles of connecting new knowledge with the previous one was reported by the teachers who used real-life examples of students to introduce new ideas.

This strategy was more frequently reported in subjects in humanities and social sciences, where discussion-based pedagogy is seen as simpler to implement.



The figure 3 demonstrates the level of collaborative learning activities in the classrooms. Classroom practice was varied with forty per cent of teachers indicating they used group work and peer learning frequently, 37 per cent used these strategies occasionally and 23 per cent never used collaborative activities.

Conversely, instructors of exam-based courses like mathematics and science recognised more dependence upon explanation and demonstration especially when training students to take standardised tests. This trend represents the conflict in the literature between constructivist pedagogy on the one hand and content-centered curricula in the secondary level on the other. Group work and peer discussion were other collaborative learning practices that were indicated by most respondents, but infrequently on a regular basis.

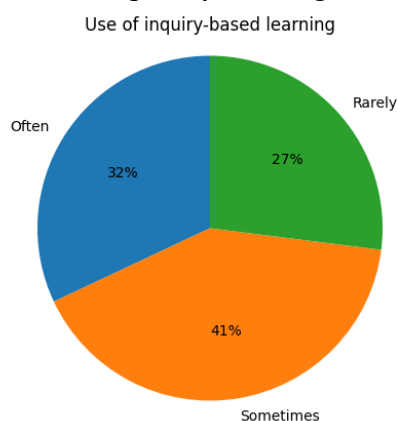
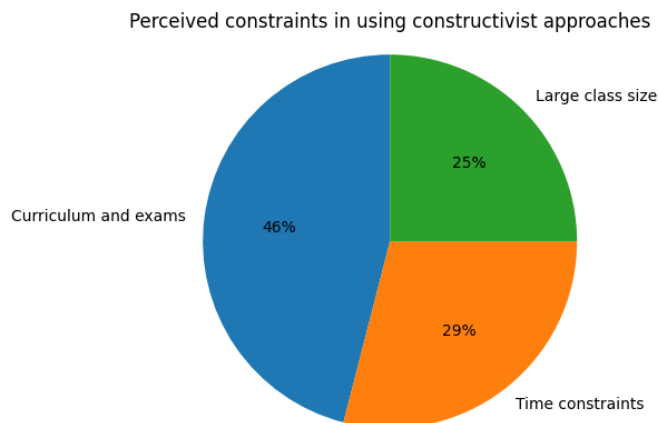


Figure 4 show application of inquiry based learning methods. A significant proportion of 32 per cent of respondents only used inquiry-based learning very frequently, whereas 41 per cent used it occasionally and 27 per cent used it infrequently, which indicates limitations on more serious constructivism work.

Teachers observed that group activity was more likely to be applied in revision task or project work or enrichment activities as opposed to a regular mode of teaching. Large class group, time pressure and classroom management constraints were often cited as constraints. Consequently, collaborative learning was more likely to be teacher-controlled and structured



as opposed to open-ended, which implied the partial implementation of constructivist principles. This observation is consistent with previous studies that have shown that constructivist practices at the secondary classroom are not usually applied in their purest form but modified to meet the institution realities.



The perceived barriers to introduction of constructivist practices are presented in figure 5. The greatest limitation was seen to be curriculum and examination stress (46 per cent) and then time constraint (29 per cent) and large classroom (25 per cent).

The reported weaknesses in practice occurred in inquiry-based learning and problem-solving activities. Even though there was agreement among teachers regarding the significance of inquiry as a method of building critical thinking, the number of teachers who claimed to periodically plan lessons whereby students were supposed to solve problems independently or solve problems was lower. One of the biggest issues that most of the teachers expressed was the pressures of exams and predetermined syllabi and they mentioned that inquiry based learning was perceived to be time consuming and threatening in high stakes assessment. This corroborates the hypothesis that system of assessment has a strong influence on pedagogical choice, which usually compromises long term constructivist experimentation in school.

Another light that is shed in the concept of constructivist practice is the perception of teachers with regard to their role in the classroom. Most of the respondents considered themselves as the facilitators of learning in theory, yet their accounts of what happens in the classroom showed them playing a contested role as facilitator and direct instruction. When teachers were asked about leading discussions, summarising important information and providing model responses, particularly on complex or abstract issues, was mentioned. This combative approach implies that it is trying to negotiate between constructivist values, and the requirement that the curriculum should have a lot of content to cover, and test scores to achieve and therefore results in pedagogical practices that are neither traditional nor constructivist.

Institutional support and professional preparation were identified to play a huge role in discussion of the results in the context. The teachers who indicated that they had enrolled in recent professional development programmes that focused on learner-centred instructional approach noted more instances in how they indicated different instructional strategies and

reflective teaching practices. Conversely, respondents who responded that they were not highly exposed to training meant that they were uncertain of the way the constructivist principles apply in their daily lessons. The school culture also played a part in it as the supportive leadership and the collegial cooperation were found as the contributing factors of experimentation with the new teaching approaches. The schools where the performance indicators were restricted to measure performance based on the examination outcomes are found to have less willingness to change the traditional instructional patterns in the schools that had performance indicators that were very limited in their scope in order to measure the performance.

Survey Indicator	Response Category	Number of Teachers	Percentage
Awareness of constructivist teaching approaches	High awareness	62	62%
	Moderate awareness	25	25%
	Low awareness	13	13%
Frequency of learner-centred teaching practices	Regularly	48	48%
	Occasionally	34	34%
	Rarely	18	18%
Use of collaborative learning activities	Frequently	40	40%
	Sometimes	37	37%
	Never	23	23%
Use of inquiry-based learning	Often	32	32%
	Sometimes	41	41%
	Rarely	27	27%
Perceived constraints in using constructivist approaches	Curriculum and examinations	46	46%
	Time constraints	29	29%
	Large class size	25	25%



In general, the results indicate that constructivist methods are recognised and partially incorporated in the teaching of secondary schools, and their application is still limited by curriculum, assessment and organisational issues. The findings indicate a disjunction between the teaching ideologies and practice of teachers influenced more by the pressures of the system and pragmatic constraints rather than opposition to constructivism. These results have ensued the discussion of issues on quality of teaching in schools by showing how constructivist pedagogy is negotiated in the actual classroom situations as opposed to being built as a homogeneous model.

### **Conclusion**

The results of the current study suggest that constructivist strategies have gained a significant conceptual acceptance in the minds of teachers of secondary school, but their practical application is not even across the board. A significant percentage of teachers showed great knowledge of constructivist pedagogy and positive intentions towards learner centred teaching which implies that modern educational language and teacher education has managed to impart constructivist concepts to the high-schools. Such awareness is an indicator of increasing awareness in the need to engage in active learning, student engagement and comprehension of concepts in the context of creating meaningful secondary learning.

In spite of such awareness, it is shown that there is a distinct gap in pedagogical beliefs and classroom practice as documented in the study. Although several teachers claimed to apply learner-centred teaching and collaborative strategies, such strategies were done in spurts as opposed to being implemented as a regular teaching method. The use of inquiry-based learning, which is one of the main tools of constructivist pedagogy, was also quite inadequate as a relatively small percentage of teachers reported its regular use. These trends indicate that the constructivist approaches are often transformed into hybrid forms of constructivism that do not exclude traditional forms of teaching, but exist along with them. Pragmatic considerations of syllabus coverage and preparation of examinations seem to influence such adaptations.

The research also mentions the high power of systemic and circumstantial constraints on pedagogical options of teachers. Curriculum intensity and examination pressure was found to be the greatest challenge to a long-term constructivist practice, then time constraints and large classes. Such limitations minimize possibilities of discovery learning, extended talks and student investigation, and solidify more instructive types of teaching. Meanwhile, research in the field also indicates that institutional support through constructivist strategies experimentation and encouraging school climate may be a crucial factor that enables increased experimentation with constructivism strategies, which suggests that institutional support is a key factor in the process of pedagogical change.

Comprehensively, the paper highlights that the issue in fostering constructivist in the learning environment of secondary school does not occur in the form of teacher resistance but by the necessity to align the structural elements of the curriculum, assessment methods and teacher development in accordance with the aims and objectives of learner centred pedagogy. The



study helps gain a better and more detailed insight into the nature of constructivist principles negotiation in actual classroom settings, and it can also serve as a foundation to take a more informed action and improve constructivist practice in the secondary schools.

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