Chapter: 3

Research Methodology

3.1 Introduction

This chapter outlines the overall research approach adopted for the present study. It provides a detailed explanation of the design, tools, techniques, and procedures followed to investigate the perspectives of pre-service teachers on inclusive education. The chapter begins with a discussion on the nature of the research and describes the universe and sample selected for data collection. It further elaborates on the sampling technique used, the development and use of the data collection tools, and the process of data analysis. The role of interviews, focused group discussions, and informal interactions with experts is also described to highlight the depth and authenticity of the data gathered. The entire methodology is framed to ensure that the research remains contextually relevant, academically sound, and ethically grounded.

3.2 Literature Gap

The literature review in Chapter 2 shed light on various aspects of inclusive education and teacher attitudes, but also pointed to a clear gap that this study seeks to fill. While numerous studies have examined practicing teachers' attitudes and some have surveyed pre-service teachers in metropolitan areas or at central universities, there is a lack of research focusing on **pre-service teachers in typical state-level colleges in regions like Chapra, Bihar**. These colleges cater to a large proportion of India's teacher workforce, and their students may not have the same exposure or resources as those in premier institutions. The gap is not only geographical but also contextual – previous research hasn't deeply explored how local factors (such as local school conditions, community attitudes, etc.) might influence pre-service teacher perspectives on inclusion.

Furthermore, the literature indicates what pre-service teachers globally tend to feel (for example, moderately positive yet underprepared), but these broad findings need validation at the micro level. Do the B.Ed students in Chapra mirror the national trend of conceptual support but practical uncertainty regarding inclusion? Or do they have distinct perspectives shaped by their experiences? The existing studies in India either aggregate data at the state/national level or focus on one dimension (e.g., attitude scale scores). Few studies provide a holistic picture that includes

knowledge, attitudes, self-efficacy, and perceived challenges *together* for the same cohort. This study addresses that by using a comprehensive questionnaire that touches on all those facets, complemented by qualitative insights.

Another aspect of the gap is related to **policy-practice disconnect**. While policy documents and curricula mandate inclusive education training, there is little research on how much of that knowledge trickles down to the student-teachers. In Bihar's context specifically, we do not have much documentation on how B.Ed curricula are implemented in terms of inclusion. By asking the respondents about their sources of awareness (e.g., "Have you learned about inclusive education in your course? In what ways?"), the study can infer how effectively the curriculum is being delivered or perceived.

In short, this research aims to fill the gap by focusing on a specific, under-researched population (pre-service teachers in Chapra) and by adopting a multi-dimensional inquiry into their perspectives, rather than a narrow focus. It seeks to contribute context-rich findings to the body of knowledge on inclusive education readiness.

3.3 Research Design

This study employs a **descriptive survey research design** with complementary qualitative elements. The primary approach is quantitative-descriptive, aimed at systematically describing the current status of pre-service teachers' awareness, attitudes, and perceived readiness regarding inclusive education. The survey method was chosen because it is an effective way to gather information from a relatively large group (40 respondents) on their perceptions and self-reported behaviours/attitudes in a standardised manner. The descriptive design does not manipulate any variables but rather observes and documents phenomena as they exist, which is suitable given the exploratory nature of the research questions.

In addition to the survey, the design incorporates a qualitative component through *semi-structured interviews* (informal conversations) with a few key informants (DIET officers and B.Ed college lecturers). This could be seen as a **mixed-methods** approach in a simplistic form – QUAN+qual, where quantitative data provide the core findings and qualitative insights are used for enrichment and explanation. The rationale for including qualitative data is to gain deeper insight into context, clarify any ambiguous trends from the survey, and capture aspects that a questionnaire might not fully cover (such as nuanced explanations of why certain challenges exist).

The overall design is a **case study** of sorts focusing on the two teacher education colleges in Chapra. Case study elements are present since the research delves into a bounded system (pre-service teachers in Chapra colleges) with the intent to understand their perspectives within that environment. However, unlike some case studies, this one leans on survey data rather than purely ethnographic or observational data.

Key characteristics of the design:

- **Cross-sectional**: Data were collected at one point in time (within a defined period, rather than longitudinally). The respondents' perspectives are captured as of that time, which suffices for the objectives.
- **Descriptive and Analytical**: While largely descriptive (frequencies, percentages of responses), the study also engages in analytical comparisons (e.g., by gender) and attempts to explain relationships (though not in a causal sense, but in interpreting connections like between training exposure and confidence).
- **Non-experimental**: There is no intervention or experimental manipulation. The natural setting of teacher education is respected; the study's role is observational and interpretative.

By design, limitations such as self-report bias are acknowledged (as with any survey). However, to mitigate this, the questionnaire included a mix of question types (Likert scale items for attitude, yes/no and factual questions for awareness, open-ended questions for challenges) allowing cross-verification within the survey itself. For example, if a respondent claims high confidence in inclusive teaching on a Likert item but then cannot mention any strategy in an open question, it indicates possible overestimation – such inconsistencies were noted and considered during analysis.

In sum, the chosen research design is deemed appropriate to gather comprehensive data on the research questions, providing both breadth through the survey and depth through interviews, within the real-world context of interest. It facilitates meeting the study's objectives in a systematic yet contextually sensitive manner.

3.4 Universe / Population of the Study

The *population* for this study encompasses **pre-service teachers enrolled in Bachelor of Education (B.Ed) programs in Chapra, Bihar**. More broadly, one could consider the population

as all B.Ed students in Bihar or even in India for the topic, but practically and for relevance, it's confined to Chapra's teacher education context. Chapra is an educational hub in Saran district with a few teacher training colleges (including government-aided and private institutions) affiliated to Jai Prakash University, Chapra. The characteristics of this population include:

- They are typically graduates (holding a bachelor's degree) who have enrolled in a 2-year B.Ed program as a professional teacher training course.
- They usually range in age from roughly 21 to 30 years old, though some older students may be present (especially if they pursued teaching after a gap or other career).
- Both genders are represented; in many B.Ed colleges, female students might outnumber males slightly, as teaching is often seen as a favorable profession for women in the region. However, our targeted population includes all genders of enrolees.
- These students come from diverse academic backgrounds (science, arts, commerce graduates) and will be training to teach at secondary or upper primary levels typically. They also likely come from diverse socio-economic backgrounds, given the mixed urban-rural catchment of Chapra's colleges.

For the purpose of this study, only the final year students have been chosen as respondents because they are in a position to be assessed based upon their course study. Importantly, because inclusive education is a national mandate, it is expected that all B.Ed students across the population are, in theory, exposed to it in their curriculum. The extent of exposure might vary, which is partly what this study probes (in Chapra's case).

For the qualitative portion, one could consider the "population" as education officials/lecturers connected to teacher training in Chapra. However, since only a few were engaged for insights, they are treated as key informants rather than a sample from a larger population. This discussion with the teachers and officers may be taken as supplementary study to understand the perspectives of students.

In summary, the population is clearly defined (B.Ed students in Chapra) and is relatively homogeneous in terms of their stage of training, but heterogeneous in background. Since reaching every individual in this population was not feasible, a sample was drawn, as described next.

3.5 Sampling Details

Given practical constraints and the desire for manageability, this study employed a **purposive random sampling** strategy to select participants. Two teacher education colleges in Chapra were chosen intentionally: one is a government-funded constituent college of the local university (hereafter referred to as College A), and the other is a private teacher training college (referred to as College B). These two were selected to provide a bit of contrast (government vs private) and also because they are among the prominent B.Ed institutions in Chapra with sufficient student enrolment. Permission was obtained from the principals of both colleges to conduct the survey with their B.Ed students.

From each college, a subset of students was invited to participate, aiming to have equal representation by gender and a roughly equal number from each institution. The **sample size** targeted was 40 students in total (20 from each college). Eventually, the achieved sample was:

- **College A**: 10 male and 10 female B.Ed students (total 20).
- **College B**: 10 male and 10 female B.Ed students (total 20).

This yields a sample of **40 pre-service teachers (20 male, 20 female)**. This number, while modest, was considered adequate for a descriptive study in an M.Ed. dissertation context, balancing depth of data with coverage. It also met pragmatic considerations of time and resource constraints for the researcher.

The selection within each college was not strictly random, but an effort was made to include students from diverse backgrounds. The priority was given to second-year students (the final year) under the assumption that they have completed most of their coursework (including the inclusive education module) and had some teaching practice experience, thus they could better reflect on their training.

Inclusion criteria for the sample were straightforward: one had to be a current B.Ed student at one of the selected colleges and willing to participate. There were no explicit exclusion criteria beyond not belonging to the target group. All participants were above 18, so issues of minor consent did not arise.

Additionally, for the **informal interviews**, the sampling was also purposive:

- Two officials from the DIET (District Institute of Education and Training) in Chapra who are involved in curriculum or training oversight were approached. One senior lecturer from DIET and one administrative officer agreed to brief interviews.

- Three teacher educators (lecturers) – one from College A and two from College B – were also consulted informally for their opinions.

These individuals were chosen because of their direct involvement in teacher training and their ability to comment on institutional practices around inclusive education. Their insights are used qualitatively and not meant for generalisation; hence no larger sampling of officials was done.

Overall, while the sample is not statistically random or large, it is considered appropriately representative of the environment within Chapra's teacher education community. The equal gender split and inclusion of two types of colleges add to the diversity of viewpoints captured. The findings from this sample are not meant to be generalised to all pre-service teachers in India (or even all of Bihar) in a strict sense, but they offer a case-based understanding that could have resonance in similar settings.

3.6 Tools of Data Collection

The primary tool for data collection in this study was a **researcher-developed semi-structured questionnaire**, designed to capture both quantitative and qualitative data from the B.Ed student respondents. The questionnaire was crafted after reviewing literature and existing instruments used in related studies (such as attitudes scales by Likert, teacher efficacy scales, etc.), ensuring that it was contextually relevant and covered the domains of interest.

Questionnaire Structure: The questionnaire was divided into several sections:

- **Section A: Demographic and Background Information** – which gathered basic data such as age, gender, year of study, and any prior exposure to inclusive education (for example, a question asked if they had prior personal contact with persons with disabilities, or if they had done a course on inclusive education yet).

- **Section B: Awareness and Knowledge** – containing questions about inclusive education concept and policy. For instance, one item asked, "Have you heard the term 'inclusive education' before your B.Ed course?" (Yes/No). Another was open-ended: "In your own

words, explain what inclusive education means." Additionally, there were a few factual items (e.g., asking if they know of certain policies – RTE Act, RPWD Act – related to inclusive education).

- **Section C: Attitudes** – utilizing a Likert scale format. This section included statements to which respondents indicated their level of agreement on a 5-point scale (Strongly Agree to Strongly Disagree). Statements were formulated to gauge their attitude toward inclusion (e.g., "Inclusive education benefits all students, both with and without disabilities," or "Students with disabilities will learn best in special schools, not regular schools" – the latter being reverse-coded for attitude scoring). There were also statements about willingness ("I am willing to adapt my teaching style to accommodate students with special needs").

- **Section D: Self-Efficacy/Preparedness** – also mainly Likert-scale items. Respondents rated their confidence in performing certain tasks relevant to inclusive teaching: for example, "I feel confident in my ability to identify when a student has a learning difficulty," "I can design learning activities that both special needs students and others can do together," and "I feel prepared to manage a classroom where some students need individualized attention." These aimed to capture their perceived competence.

- **Section E: Perceived Challenges and Needs** – which included both checklist and open-ended items. A checklist item listed various potential challenges (like "Lack of teaching materials or resources," "Inadequate training on inclusive strategies," "Negative attitudes of other teachers or school administration," "Large class size," etc.) and asked respondents to tick which ones they anticipate as likely issues in implementing inclusion. They could tick multiple. There was also an open question: "What do you think will be the most challenging aspect for you in teaching in an inclusive classroom? Why?" to elicit personal viewpoints. Another open-ended question asked, "What support or changes would you suggest to help new teachers implement inclusive education effectively?"

- **Section F: Knowledge of Strategies (optional)** – a couple of questions to see if they could name any inclusive teaching strategies or accommodations (e.g., "List any strategies you know that can help include a child with a disability in classroom learning."). This was to corroborate the preparedness aspect with actual knowledge recall.

The questionnaire was semi-structured in the sense that while most questions were fixed, some open-ended responses allowed respondents to express thoughts in their own words, providing qualitative nuance. This tool was reviewed by a DIET lecturer for face validity and clarity before being administered, and a brief pilot with 3 students (not in the main sample) was done to ensure the questions were understandable – minor tweaks were made accordingly (like providing examples for "inclusive teaching strategies" after noticing confusion in the pilot).

For the **informal interviews**, an interview guide (another tool) was used, which contained a few guiding questions such as:

- "In your view, how well are current B.Ed students being prepared for inclusive education?"
- "What challenges do you see new teachers face when they try to implement inclusive education in classrooms here in Bihar?"
- "What improvements would you suggest in teacher training to promote inclusive practices?" These interviews were not strictly structured; the guide served to steer the conversation, but interviewees were encouraged to talk freely. Notes were taken (with permission) during these discussions rather than audio recordings, to keep it informal and due to time constraints.

Both tools – the questionnaire and the interview schedule – were instrumental in collecting a rich set of data. The questionnaire provided quantifiable data and direct statements from students, whereas the interviews yielded contextual commentary and professional perspectives that help interpret the student data.

3.7 The Questionnaire (Data Collection Instrument)

As the core instrument of this study, the semi-structured questionnaire warrants a more detailed description of its contents and the rationale behind them:

- **Design and Rationale**: The questionnaire was deliberately kept to a length that could be completed in about 20–25 minutes to avoid respondent fatigue (it spanned approximately 4 pages). The language used was English, as the medium of instruction in B.Ed colleges is primarily English; however, some difficult terms were accompanied by brief explanations or Hindi equivalents in parentheses to ensure comprehension (for example, "impairment

(vikalangta)"). This bilingual hint approach was taken based on the pilot feedback that a few terminologies needed clarification.

- **Section A (Demographics)**: This section also included an item "Have you completed the course or module on inclusive education in your B.Ed program?" (responses helped categorise whether they had formal instruction yet or not, in case first-years hadn't). Another item was "Do you personally know or have interacted with a person with a disability (yes/no)? If yes, in what capacity?" – this was to see if personal contact might correlate with attitudes (some literature suggests familiarity can breed positive attitudes).

- **Section B (Awareness)**: The open-ended question "What does inclusive education mean to you?" was key to gauge their conceptual grasp without prompting. To analyze this later, we categorised responses as correct, partially correct, or misconception. We also asked "Which groups of children do you think inclusive education is concerned with?" expecting answers like children with disabilities, but also seeing if they mention others (like those from disadvantaged communities, etc., which would indicate a broader understanding). Knowledge of policies was tested with a yes/no to "Are you aware of any laws or policies that support inclusive education? If yes, name them." This gave insight into whether names like RTE or RPWD Act were on their radar.

- **Section C (Attitudes)**: Ten statements were used for attitudes. Examples:

    1. "Inclusive education will likely lower the academic standards of the class." (Disagreement with this would indicate a positive attitude believing standards can be maintained or all benefit.)

    2. "Students with special needs should be given a chance to learn in regular classrooms." (Straightforward positive stance check.)

    3. "It is unfair to expect regular teachers to handle students with disabilities without significant support." (This one is tricky – agreement might reflect genuine concern for support, which is fair, but could also reflect reluctance, so interpretation needed caution.)

    4. "I believe that learning in an inclusive class will improve social skills of all students." (A pro-inclusion sentiment.)

5. "If I had a child with a disability in my class, I would be willing to spend extra time helping them." (Personal commitment check.)

- These items combined tapped into beliefs about outcomes of inclusion, fairness, willingness to put effort, and perceived consequences. The Likert responses were later coded 5 to 1 (SA to SD) for scoring attitude. A composite attitude score was derived, but more useful was item-level analysis for nuance.

- **Section D (Self-Efficacy)**: Items here included:

1. "I can design lesson plans that accommodate students of varying abilities."

2. "I know how to use different teaching aids (like visual aids, group work) to support diverse learners."

3. "I feel equipped to assess the learning of a student with special needs in my class."

4. "If a student with a disability does not make progress, I know of alternative teaching strategies to try."

5. "I would know how to manage behaviour issues in an inclusive classroom."

- These were rated from Very Confident to Not at all Confident (5-point). The phrasing was such that it asked their confidence explicitly. For analysis, these help pinpoint specific domains of (un)preparedness.

- **Section E (Challenges)**: The checklist of challenges had around 8 options drawn from literature and local context:

1. Lack of adequate training or knowledge about inclusive teaching.

2. Insufficient teaching-learning materials or resources for special needs.

3. Large class sizes making individual attention difficult.

4. Rigid curriculum or examination system (not flexible for diverse needs).

5. Lack of support from special educators or resource persons.

6. Negative attitudes or lack of support from colleagues/administration.

7. Lack of parental support or understanding for inclusive practices.

8. Any other: _____ (with a line to fill in their own words if something else).

- Respondents could tick all that they felt apply. This gave quantitative measure of which challenges are most anticipated. The open-ended question following it "most challenging aspect and why" was to get a narrative explanation which often provides context (for example, one might tick "large class size" but in open-end say "we often have 60 students in class, I can't imagine giving special focus – this reveals more concrete info).

- **Section F (Strategies Knowledge)**: It asked to list strategies or accommodations. This wasn't mandatory but most did write something. This was to see how well they could recall or enumerate methods (like peer tutoring, differentiated instruction, using TLMs, etc.). Many left it blank or gave one-word answers like "group activities" or "extra classes", which in itself was telling of their limited toolbox.

Overall, the questionnaire functioned both as a quantitative instrument and as a prompt for reflection by respondents. The **validity** of the questionnaire is supported by its grounding in established research (many items mirror those used in other studies, adapted to context). Its **reliability** (consistency) was not statistically measured given one-time use, but internal checks (like an attitude item and a matching challenge or practice item) allowed some consistency check in interpretation.

The questionnaire was administered in person, on paper, in a classroom setting for each college. Respondents were assured anonymity (no names collected, just a generic ID for college and gender to keep track for analysis). They were encouraged to answer honestly and were told that this is not a test but their opinions that will help improve training.

In conclusion, the questionnaire was a carefully constructed tool that effectively gathered the information needed for this study. It balanced structure with flexibility and provided data that could be analysed quantitatively while also yielding qualitative insights through open responses.

3.8 Profile of the Respondents

It is useful to present a brief profile of the 40 respondents who participated in the survey, as their characteristics may help contextualize the findings:

- **Gender Distribution**: The sample was evenly split between males and females – 20 male (50%) and 20 female (50%) pre-service teachers. This balance was intentional to capture perspectives across genders.

- **Age Range**: Most respondents were in their early to mid-20s. The average age was approximately 23.5 years. The youngest participant was 21 and the oldest was 29. This is typical for B.Ed students who often enrol after completing undergraduate studies.

- **Year of Study**: Out of the 40 respondents, all the students were final year-final semester students. The complete representation of second-years was kept purposefully so that respondents had undergone the majority of their teacher training coursework and at least one stint of practice teaching in schools. By the time of surveying, the respondents had also completed the course on Inclusive Education (as confirmed by them).

- **Academic Streams**: In terms of academic background, the respondents came from various undergraduate disciplines before joining B.Ed. 15 had backgrounds in science (B.Sc. degrees), 18 in arts/humanities (B.A. degrees), and 7 in commerce or other streams. This is relevant as subject background can sometimes influence exposure to special needs discussions (though not significantly likely at UG level).

- **College Affiliation**: As per sample design, 20 belonged to College A (government constituent) and 20 to College B (private). Within each, the gender was balanced. It was noted informally that College A had a slightly larger overall enrolment of female students in B.Ed., but since we controlled sampling, our subset is balanced.

- **Locale Background**: A majority of respondents (about 65%) hailed from within Saran district (which includes Chapra and surrounding rural areas). The remaining were from neighbouring districts or elsewhere in Bihar. Only 2 out of 40 were from outside Bihar (one from eastern UP, two from Jharkhand). This indicates most of them will likely teach in Bihar's context after graduation.

- **Prior Exposure to Inclusive Settings**: From the demographic questions, it emerged that 10 out of 40 (25%) reported having a person with a disability in their family or close acquaintances. This included things like a relative with a hearing impairment, a neighbour on crutches, etc. Additionally, during practice teaching, about 8 of the second-year students

mentioned they had encountered at least one student with a noticeable disability in the classrooms where they did internships (commonly hearing or visual impairment, or learning difficulty suspected). None had extensive experience, but these small exposures could influence their responses.

- **Completion of Inclusive Education Course**: Among the respondents, all 28 second-years had completed a full course on inclusive education as part of B.Ed (usually in their 3rd semester). Of the 12 first-years, 5 said they had an introductory lesson about it in a foundation paper, but not the full course yet. This difference is important when we consider awareness levels.

- **ICT Skills and Resources**: A minor point from background info – when asked if they had used any educational technology in training, about half said they were comfortable with basic ICT (like showing PowerPoint, videos in class). This could factor into how they envision assisting special needs (e.g., using audio-visual aids).

Summarising the profile: The respondents are a young, gender-balanced group of aspiring teachers, largely local to the region, with a mix of academic backgrounds, who mostly have received some formal instruction about inclusive education. Many have limited direct experience with children with disabilities, which is expected at this stage. This profile suggests that their perspectives are likely shaped by their training program content, personal values, and whatever minimal exposure they've had. It also primes us to interpret differences: for instance, one might anticipate second-years to show more nuanced understanding than first-years due to having finished the inclusive education course; or slight differences between the college types if their training quality varies.

In the analysis (Chapter 4), when relevant, this profile information will be referenced (e.g., checking if those who had prior personal contact with PWDs held different attitudes or not, etc.). Overall, the respondents constitute a fairly typical sample of B.Ed trainees in such colleges, which lends credibility and relevance to the study's insights.

3.9 Data Collection Procedure

Data collection was carried out in the month of March 2025 over a span of approximately two weeks, following a structured yet flexible procedure:

- **Permissions and Scheduling**: First, formal permission letters were sent to the principals of the two selected colleges (College A and College B) explaining the purpose of the study and what participation would involve. Upon approval, coordination was done with a faculty member at each college to identify a suitable day and time to meet the B.Ed students without disrupting their schedule too much. Both colleges scheduled the survey session during a free period/seminar slot.

- **Administration of Questionnaire**: The researcher visited College A and College B on the agreed dates. In each session, around 20 students were present (since it was pre-arranged for our target number). Prior to distributing questionnaires, the researcher introduced herself and provided a brief overview of the study in simple terms. It was emphasized that participation is voluntary and that they could skip any question or withdraw if they felt uncomfortable (though none did). Confidentiality was assured – no names were being collected and results would be reported in aggregate.

  Students were then handed the questionnaires and asked to fill them individually. They were seated apart enough to ensure independence of answers. The researcher and a faculty member were in the room to address any queries. Interestingly, a couple of clarifications were sought by respondents during this: one student asked what "learning disability" means in one of the attitude statements; another asked if "inclusive education" also covers "economically poor children" – such questions themselves were insightful and were noted. The researcher clarified where appropriate without leading their answers (e.g., explained learning disability broadly as difficulty in reading/writing not due to intelligence, which is a part of what inclusive ed covers).

  Most students took about 20 minutes to complete the survey; some took a bit longer especially if they wrote long answers for open-ended questions. As they handed in the completed forms, a quick scan ensured all pages were filled – if something was inadvertently left blank (except intentionally skipped ones), the researcher politely prompted them to complete if they were willing.

- **Collection of Qualitative Data**: After the survey, an opportunity was taken to hold a short group discussion at each college (this was not originally planned formally, but time permitted an informal chat). The researcher asked the group generally how they felt about the topic of inclusive education, and a few students shared thoughts in a conversational manner. While not systematically recorded, these conversations reinforced some survey

points (like some students expressed "our course told us the theory but we have never seen a disabled child in real class," etc.). These interactions, while anecdotal, informed the researcher's understanding.

Separately, in the following days, the researcher visited the DIET office and met two officials as planned. These interviews were done one-on-one in their offices, each lasting around 15-20 minutes. Notes were jotted in a notebook. The officials were candid, providing context about teacher training challenges in the district (e.g., one mentioned that "most of our trainee teachers have never been to a special school or met a special educator – that's a gap we have" which directly relates to findings). Similarly, the lecturers from the colleges were spoken to either in person or via a phone call for those off-campus. These conversations were less formal but guided by the questions in the interview guide.

- **Ethical Considerations during Data Collection**: Each participant (survey or interview) gave verbal consent after being briefed. Anonymity was maintained in that no names or roll numbers were on questionnaires – instead a code like A5 (college A, respondent 5) was used internally. The respondents were informed that results would be used for research and their individual responses would not be shown to their teachers or affect their grades in any way (they seemed relieved to hear that, ensuring honesty). The DIET officers and lecturers interviewed were also assured that their quotes or inputs would be used without attributing names in the report.

- **Post-Collection Handling**: The completed questionnaires were securely kept and later transcribed into a spreadsheet for analysis. Open-ended answers were also transcribed verbatim for content analysis. Interview notes were typed out to organize the qualitative content.

The data collection proceeded smoothly without major hiccups. The biggest challenge was scheduling, which was resolved by the cooperation of college faculty. The respondents were generally enthusiastic that someone was asking their opinion on this matter – a few even commented that it made them think deeper about inclusive education. This interactive stance likely improved the quality of responses as they felt engaged.

In conclusion, the procedure was executed as planned, ensuring data integrity and ethical compliance. The mix of survey and discussion provided a rich dataset that was then ready for analysis as detailed in the next chapters.

3.10 Ethical Considerations

This study was conducted with careful attention to ethical standards, acknowledging that even though the topic may not be highly sensitive, it involves human participants (student teachers) and thus necessitates ethical diligence. Key ethical considerations and the measures taken include:

- **Informed Consent**: Participants were fully informed about the purpose and nature of the study before participation. At the beginning of each survey session, the researcher explained that this was part of an academic research project to understand their perspectives on inclusive education, that participation was voluntary, and that they could refuse or discontinue at any point without any negative consequences. They were also told that by filling out the questionnaire, they are providing their consent to use the data for research. For the interviews with officials/lecturers, verbal consent was obtained to use their insights in the dissertation (without naming them). No deception or covert data collection was involved – transparency was maintained about what was being collected and why.

- **Confidentiality and Anonymity**: The identities of the student respondents were kept anonymous. The questionnaire did not ask for names, and any potentially identifying information (like specific village name, etc.) was avoided or generalised in reporting. When analysing and reporting results, data are presented in aggregate form or using codes (like Respondent A5 said ...). The participating colleges are not named explicitly in any critical context within the dissertation to prevent any potential stigma or inference about them; they are simply described in generic terms (government or private college in Chapra). The qualitative quotes or perspectives shared by officials are reported without names or any designation that could be traced back to a particular individual. All physical questionnaires were kept secure by the researcher and will be destroyed after the completion of the project as per ethical research practices.

- **Non-Maleficence**: The principle of doing no harm was observed. The study's questions were not of a nature that would cause psychological distress; they were about professional perspectives. Nevertheless, care was taken to ensure that the phrasing of questions was

respectful. For instance, the questionnaire did not frame any group (e.g., children with disabilities) in a negative light or use derogatory language. Also, participants were not judged or challenged on their responses during data collection – the researcher maintained a neutral, accepting demeanour so respondents felt comfortable expressing honest opinions (even if an opinion might not be fully politically correct, it was important to capture it without making the respondent feel guilty or judged).

- **Debriefing**: After the surveys and informal discussions, the researcher offered a brief debrief. Students were thanked for their participation and a short dialogue followed where some evidence-based points about inclusive education were shared (this wasn't initially planned as part of research, but as an ethical courtesy, some students asked "ma'am, what do you think about inclusive education?" and this led to a brief educational conversation reinforcing some pro-inclusion ideas, effectively giving back some knowledge to the participants). This debrief was careful not to influence their survey (which was already completed) but served as a closure. It ensured participants left with possibly new insights or at least felt that their time contributed to something meaningful and that they perhaps learned something too.

- **Academic Integrity and Honesty**: On the researcher's part, all findings are reported honestly without fabrication or falsification. Attribution is given to sources used (as evidenced in the references). This ethical consideration ensures that the research maintains integrity and respects intellectual property.

- **Cultural Sensitivity**: In Bihar's context, cultural dynamics such as respect for elders, gender norms, etc., are prevalent. The researcher, being mindful of this, approached participants in a respectful manner (e.g., being slightly more formal in tone with senior officials, or making sure female students especially felt safe to speak up in discussions with male peers around). The topic of disability can carry stigma in some communities; the researcher approached it from an educational perspective rather than a charity or sympathy perspective, to avoid framing persons with disabilities as objects of pity in any discussion.

- **Use of Data**: Participants were informed that the data collected would be used solely for the research purposes of this dissertation and related academic outputs, and not for any evaluative purpose of the colleges or students. This was important to alleviate any fear that

their answers could affect their academic standing. Additionally, the researcher committed to sharing a summary of findings with the colleges after the study, as a professional courtesy and ethical responsibility to communicate results to those who participated.

Given these measures, the study adhered to ethical norms. The participants engaged willingly and, based on immediate feedback, appreciated the opportunity to reflect on the subject. There were no incidents of distress or conflict arising from the research process. The ethical safeguards in place thus successfully protected the participants' rights and well-being, and ensured the research was conducted with integrity.

3.11 Limitations and Challenges of the Study

No study is without limitations, and it is important to acknowledge the constraints and challenges faced in this research, as they frame the interpretation of the findings:

- **Sample Size and Generalisability**: With a sample of 40 pre-service teachers drawn from two colleges, the study's quantitative findings should be interpreted cautiously. While the case study approach yields in-depth insights, the results may not be statistically generalisable to all B.Ed students in Chapra, let alone Bihar or India. The sample was purposive and relatively small, which means the data are rich but not necessarily representative of all contexts. There may be slight selection bias as well, since those who were present and participated might be the more engaged students (for instance, a few students absent on survey day might have different perspectives).

- **Self-Report Bias**: The study relied heavily on self-reported data (questionnaire responses, self-assessed attitudes, etc.). Participants might have responded in socially desirable ways, particularly on attitude items, knowing that inclusive education is the "right" thing to support. For example, some may overstate their positive attitudes or willingness, or conversely, some might understate problems not to appear incompetent. Although anonymity was assured to mitigate this, the possibility of bias remains. Triangulating with interview data helped somewhat, but the potential for response bias is a limitation.

- **Depth of Qualitative Data**: The qualitative element (open-ended responses and informal interviews) added depth, but due to time constraints, the interviews were limited in number and duration. A more extensive qualitative study (e.g., observations of these trainees in

practice teaching or focus group discussions) could have provided deeper insight into nuanced attitudes or classroom behaviours, which was beyond the scope here. The informal nature of interviews, while candid, also means they were not recorded verbatim; some detail may have been lost in note-taking.

- **Single Point in Time (Cross-sectional)**: The research captures a snapshot of perspectives. It does not account for how these student teachers' views might evolve, say, after they complete internships or start teaching for real. A longitudinal element (tracking the same individuals into their first teaching job) could enrich understanding of how much pre-service attitudes carry over to practice, but that was not feasible within this project.

- **Context Specificity**: The focus on Chapra means findings are context-bound. Chapra's educational environment (e.g., local school conditions, community awareness about disability) influences respondents' thinking. In places with different environments (like a metro city where inclusion might be more established), results might differ. Thus, while the study addresses a gap for this context, readers should be careful in extrapolating results to dissimilar contexts.

- **Limited Statistical Analysis**: The study primarily uses descriptive statistics (percentages, averages) and simple comparative look (like male vs female response trends). Given the sample size, no advanced inferential statistics (like chi-square or t-tests) were meaningfully applicable with power. This might be seen as a limitation in rigour quantitatively. The analysis can indicate differences (e.g., "more males tended to agree with X than females") but not always assert their statistical significance.

- **Unexplored Variables**: The research did not deeply examine some factors that could be relevant. For instance, the influence of individual personality traits or prior schooling experiences of the B.Ed students on their attitudes was not explored. Also, differences in training quality between the two colleges – while they existed anecdotally (one college had more experienced faculty in special education than the other) – were not systematically measured. These could have been extraneous variables affecting results.

- **COVID-19 Aftermath**: One real-world factor was that these B.Ed cohorts had part of their program during the COVID-19 pandemic period (2020-2021) where classes were disrupted. This might have affected the delivery of content like inclusive education, or reduced

chances for physical internship experiences. While not directly measured, it's a contextual limitation that their training experience might not have been fully normal.

- **Researcher's Own Bias**: As a researcher passionate about inclusive education, there's a risk of interpretative bias – possibly reading more positivity or more concern into responses based on my expectations. To counter this, I tried to let the data speak and also had peer review of some interpretations by a fellow M.Ed colleague. Still, subtle bias could creep in how qualitative data was coded or emphasized.

- **Challenges in Field**: On a practical note, coordinating with institutions and ensuring student availability was a minor challenge (scheduling around exam times, etc.). While ultimately successful, these logistical issues slightly limited how many students we could get in one go and how long we could engage them. However, all planned data was collected.

By acknowledging these limitations, the study maintains transparency. These constraints do not negate the value of the findings but frame them – the insights are quite valid for the sample and context studied, offering important clues and trends. Future research can build on this by addressing some limitations, for example, expanding sample size across multiple districts, employing longitudinal tracking, or incorporating observational methods to complement self-reports. Despite limitations, the study provides a foundational understanding from which recommendations are drawn, with the caveat that those recommendations should be adapted and tested in broader settings as needed.