

Article

# Practices Promoting the Inclusion of Adult Students with Disabilities in the Classroom: A Case of a Technical Vocational Education and Training College in Kazakhstan

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**Abstract:** Kazakhstan's government has launched many policy reforms to enhance the well-being of its underrepresented citizens and develop human capital by providing education to all. Therefore, the government has adopted a policy on inclusive education and recognised the rights to education of all learners, including those with disabilities, based on equal opportunity, without any discrimination. This aims to facilitate equal access to lifelong education opportunities, including in Technical Vocational Education Training Institutes (TVETs). Thus, inclusive education in TVET settings and lifelong learning, especially for adults with special needs, has become an educational priority in Kazakhstan. Therefore, this collaborative action research study intended to explore classroom practices promoting the inclusion of adult students with disabilities at Kazakhstani Technical Vocational Education and Training Institutions (TVETs). Qualitative data were collected through reflective journals, student focus-group interviews, documentary analysis, and reflective meetings of the professional learning group of selected teachers and students during the four stages of collaborative action research (CAR). Data were analysed through group interpretative meetings by the research team and inductive thematic content analysis by the researcher. Among the findings is that the educative process in TVETs does not sufficiently provide reasonable inclusive support for adult students with disabilities. As a result, a comprehensive review of inclusive practices in these institutions was critical. This paper discusses some practices that could promote inclusion in TVET classrooms.

**Keywords:** classroom; collaborative action research; inclusion; inclusive education; inclusive teaching



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## 1. Introduction

Technical Vocational Education and Training is provided by TVET institutions of Kazakhstan following the State Program of Education Development in the Republic of Kazakhstan (SPED 2011–2020) [1], (SPED 2016–2019) [2]. Due to the underrepresentation of adults with disabilities in Kazakhstani TVETs, efforts and endeavours have been made to redress the legacy of Soviet policies and practices that segregated students with disabilities. As a result, there has been an increase in the number of students with disabilities in TVETs. According to the data of E-government, there are about 178 TVET colleges promoting education for students with special needs in Kazakhstan, accommodating about 3000 students in their education [3]. These data indicate that despite the increase in student population, the number of adults with disabilities included in TVET is still low as it constitutes a very small portion of less than 20% of 3000 students. This figure is not high taking into consideration the total number of potential adult students with disabilities in Kazakhstan.

On the other hand, there are about 400 thousand adults (including those with disabilities) unemployed as lack of skills, insufficient access, or exclusion from education are barriers to joining the labour market. According to the Chief of the Department of the General Attorney Office of Kazakhstan, among the 400 thousand unemployed adults are those with disabilities. Of this group of adults with disabilities, about 70% of them can be trained; therefore, their

chances for employability can be increased and they can become active members of society [4]. According to Seitgapparov, as cited in Koskina [4], every year, only about 2.5 thousand people with disabilities find employment in Kazakhstan, and others stay unemployed. These data therefore call for increasing the enrolment of persons with disabilities into the existing 178 inclusive colleges to improve their employability skills and to make other colleges inclusive, as the State Program on Education Development (2016–2019) aims to make one hundred percent universities inclusive [2]. Kazakhstan, like other members of the United Nations, aims to achieve Sustainable Development Goal 4, which is “*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*”, as part of Agenda 2030 [5–7].

Therefore, it seems there is a strong need for promoting inclusion in TVETIs to cater to those with disabilities. It was therefore important to explore the provision of education to students with disabilities at TVETIs. To achieve this purpose, the following research questions were posed: “*To what extent are teaching practices in TVETIs inclusive? Or to what extent do teaching and learning practices at TVETIs promote the inclusion of adults with disabilities?*” *How can teaching at Kazakhstani TVETIs (if necessary) be made more inclusive?*

In this paper, we aimed to explore the inclusivity of Kazakhstani TVETIs to contribute to filling the knowledge gap about inclusive education practices in Kazakhstani TVETIs; identify practices promoting the inclusion of students with disabilities, to present working inclusive strategies for students with disabilities and special needs in TVETIs; and determine how TVETIs are inclusive so as to make recommendations about how the TVETIs in Kazakhstan could be made more inclusive.

## 2. Inclusive Education and Practices in TVET Education

Article 24 of the UN Convention on Persons with Disability (CRPD) [8] includes the requirement of making vocational, adult, and lifelong education accessible to all, including those with disabilities. According to the OECD [9], Vocational and Education Training (VET) programs are the type of education that leads to job employment and consists of education and training programs (p. 320). The literature shows that inclusive education in TVET education often experiences barriers in the form of a lack of policy clarity, a lack of teacher skills, and poor in-service training for TVET teachers regarding inclusive pedagogies and methodologies, as well as professional support [10]. It is also believed that the overemphasis of the medical approach towards disability versus the social approach is a serious barrier to inclusive education success in TVETIs. According to Delubom, Marongwe, and Buka [11], inclusive TVET education is hampered by aspects such as infrastructure, funding, and a lack of support staff for students with disabilities, as well as equipment [12]. Various authors suggest different ways of supporting students with disabilities; in this regard, Sako [13] avers that support for students with disabilities at TVETIs should be tailored according to the specific disability of the student. The support of students at TVETIs may focus on non-academic aspects—for instance, in Zimbabwe, “*one out of the three TVET institutions offer students support in the form of fees, uniforms, stationery, sexual reproductive health rights education, child care services for children of mothers pursuing their technical and vocational education*” [14] (p. 1). On the other hand, Mosalagae and Bekker [15] suggest that the focus on curriculum delivery methods could go a long way in addressing epistemic and pedagogical marginalisation of students, particularly those with disabilities such as intellectual disabilities. According to Makinen, Alemu and Abebe [16], inclusive education in TVETs may require a student-centered approach, with an inclusive curriculum, collaboration, assistive technologies, and flexible assessment.

### 2.1. Inclusive Education in Kazakhstan

In Kazakhstan, inclusive education is understood as the process of ensuring equal access to education for all students, taking into account the special educational needs, disabilities, and abilities of learners [17]. The Republic of Kazakhstan rectified the United Nations Convention on the Rights of Persons with Disabilities [8] in 2015. Furthermore, article 14 of the Constitution of the Republic of Kazakhstan states that, “*No one shall be subject*

to any discrimination for reasons of origin, social, property status, occupation, sex, race, nationality, language, attitude towards religion, convictions, place of residence or any other circumstances". Similar provisions were made in the Law on Education [18]. As a result, various initiatives were developed within the framework of State Programs in 2011–2020 [1] and 2016–2019 [2].

Concurrently, in 2010, the higher and post-school education of Kazakhstan subscribed to the Bologna Process, which added certain requirements according to European standards and guidelines, to ensure access to education [19,20] (p. 59). As a result, certain requirements were placed on TVET education to ensure that lifelong learning for adult students with special needs and disabilities became a priority.

## 2.2. Kazakhstani Higher Education and Technical and Vocational Education

As of 2015, there were 125 higher education institutions: 61 public and 64 private institutions. These institutions consist of 85 universities, 21 academies, 18 institutes, and 1 conservatory [21] (p. 55). In addition, there is one autonomous HEI, Nazarbayev University (NU), which was created to help raise research capacity in Kazakhstan.

The Bologna System framework has implemented changes in Kazakhstani higher education, aligning it to European standards. Higher education in Kazakhstan is consistent with the Bologna System framework and has three levels: Bachelor's degrees, Master's degrees, and Ph.D. degrees. A bachelor's degree can be obtained in a minimum of four years and a minimum of 128 ECTS [21] (p. 35). Postgraduate Master's degrees can be obtained in two years and Ph.D. degrees in three to five years, and medical degrees are usually seven or more years [21] (p. 19). The reason for changing the educational system is that Kazakhstani scientists and the pedagogical community wanted to join the world's mainstream of intellectual progress [22] p. 65.

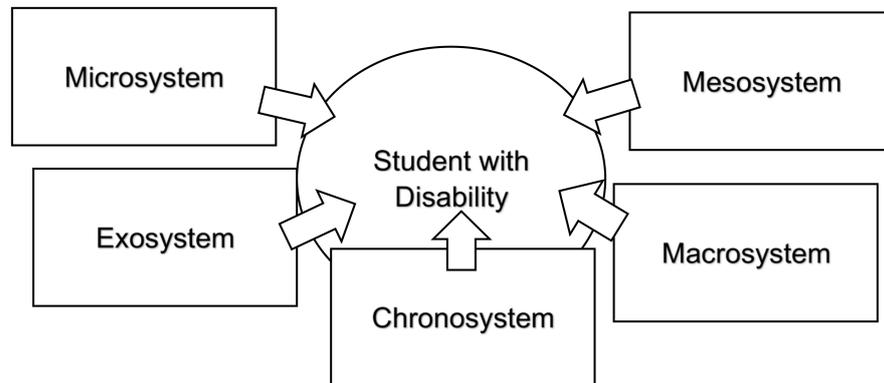
In Kazakhstan, colleges are the main part of the Kazakhstani TVET system, which aims to provide education equipping young people with the skills necessary to join the labour market. In 2012, all VET institutions and lyceums became colleges [9] (p. 332). Kazakhstani colleges are run by local authorities, and colleges are not regarded as a part of affiliated universities [21] (p. 24). There are 779 colleges that provide education to about 488,926 students in Kazakhstan [23].

They start accepting school leavers after the ninth grade and simultaneously provide them with basic labour market training, secondary education, and tertiary courses [21] (p. 17). Students finish college when they reach the age of 19 or older, and this age is considered the age of adulthood. Colleges do not have entrance exams for students, and they equip students with lower levels of tertiary education, which are highly valued by employers [21] (p. 24). School leavers after 11th grade can also join colleges for a one-year tertiary program to attain a qualification. Colleges are mostly attractive to students who struggle academically, as the colleges are an opportunity to join higher education after graduating college. Although the Unified National Test (UNT) is a requirement to join higher education, at colleges, the UNT is not required.

## 2.3. Theoretical Framework

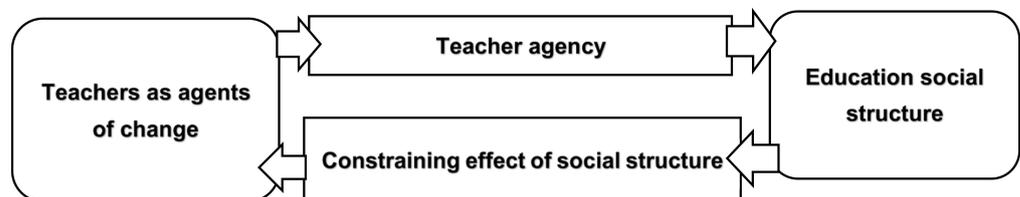
In this study, we were guided by two theoretical frameworks. First, for students with disabilities, we assumed Bronfenbrenner's bio-ecological model, which adopts a student-centred approach to support. Bronfenbrenner's theory states that the student's development is influenced by the following systems: the microsystem, mesosystem, exosystem, and macrosystem. In this study, we adopt these systems as critical for students with disability support within the college environment. The microsystem entails factors in the immediate student environment, and the macrosystem is composed of institutions that may impact students, such as relationships between students with disability and family, teachers, and fellow students. The exosystem includes factors beyond the college, such as non-governmental organisations that have a vested interest in TVET education. The macrosystem entails societal aspects such as the economy, sociocultural conditions, and other community factors that have an impact on the educational support of students with

disabilities. Figure 1 shows the centrality of the student with disability within the college environment and community.



**Figure 1.** Ecological approach to student support.

Secondly, concerning the college teachers, we understand that the college and its environment should provide the necessary conditions for support. As a result, we adopted the Structuration Theory of Giddens [24]. Giddens [24] suggests there is a relationship between agents, agency, and social structure. There is an interplay of influence between the constraining effect of the social structure and the agency applied by agents within the social structure. This he calls the “duality”. In this study, we assume that teachers are agents of change, and through their agency, they can change the social structure—the education of students with disabilities—and as such create an environment conducive to educational support. We are also aware of the constraining effect of the college environment as a social structure on the ability of teachers to navigate the barriers of support for students with disabilities. Figure 2 illustrates the relationship between teachers as agents, their agency, and the social structure.



**Figure 2.** The duality between teacher agency and education as a social structure.

### 3. Methods

#### 3.1. Research Philosophy, Approach, and Design

This study adopted an interpretive paradigm that assumes that reality is constructed through a deeper understanding of the phenomena, shared meanings, interpretations, and insights by the researchers through qualitative data [25] (p. 61).

The study adopted a qualitative approach as it allows for exploring participants’ experiences in real life. In this study, we departed from the assumption that the researcher, students, and the team of teachers have assumptions about inclusion and inclusive teaching practices concerning the Kazakhstani TVET system.

This study adopted a collaborative action research (CAR) design within a single case study. As an approach, CAR encourages the use of an objective perspective, combined with active intervention [25] (p. 121). It employs a series of interventions, and its nature is an iterative process that promotes the initiatives to obtain the desired practical outcomes. As an intervention, it consists of a series of connected lessons, which can be reshaped due to the data gathered from previous lessons, and the intervention could be applied iteratively to address the literature further and shape the conceptual framework.

We embarked on CAR as a goal-oriented process that consists of identifying the issue to be addressed, forming a plan to solve the problem, collecting the data that reflect the

data on the effects of the action, reflecting on the results of the action, and creating actions to be taken [26,27] (p. 1).

### 3.2. Choosing a Case and Recruiting Participants for CAR

We purposefully selected a case of a TVET college that has implemented inclusive education for more than three years whose teachers have been trained and been exposed to inclusive education for more than three years. The college delivers TVET education to adult students, including those with disabilities.

We employed purposeful sampling to understand the central phenomenon being explored [28,29] by identifying the participants and the sites that could provide the necessary information [29] (p. 112).

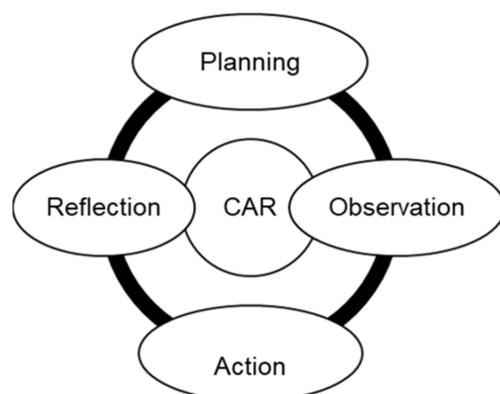
A group of five TVET teachers and eighteen adult students—within which five had disabilities and thirteen did not have disabilities—who were older than 18 years old were chosen. Those with disabilities were a mix of visually impaired students (two) and those with physical disabilities (three).

The criterion for selecting the five teachers within the TVET college were that they should have had inclusive teaching experience of more than three years. Students were sampled from the classes that teachers taught.

The teachers and the researcher formed a collaborative action research team as a Professional Learning Community (PLC). The PLC was aimed at achieving the involvement of teachers (in researching their practices) and promoting students' collaborative learning, as well as the capacity-building of educational institutions [30,31]. Students were not part of the PLC but were involved through focus-group interviews, enabling them to share their views regarding the practices that teachers adopted in their classrooms.

### 3.3. Data Collection, Procedures, and Instruments

The research data were collected in four phases of the collaborative action research cycle, i.e., Planning, Observation, Action, and Reflection [25] (p. 113). Figure 3 below shows the stages of CAR.



**Figure 3.** The stages of CAR.

In the first step of CAR, we described the context and situation and identified the problem [32]. Then, we discussed the collaborative plans of action to be carried out (reflecting on our current practices). Next, the action or intervention was established (applications of inclusive practices in the classrooms), and lastly, we reflected (gathering evidence that practices were effective or not) on the process (reflecting on our growth and change) and practice (reflecting on how teaching and learning practices have changed), drawing conclusions (developing local theory about inclusive practice in Kazakhstani TVET context) and making plans for the next action, if necessary [32] (p. 8). As Burton et al. [25] (p. 126) suggest, our reflections on actions provoked a reflective dialogue and encouraged the generation of evidence from experiences. Agreements were made based on a consensus, while disagreements were noted and recorded.

Data were collected through recording our discussions, group interpretative meetings, reflective meetings, the analysis of documents, classroom observations, and student focus groups. Each teacher was expected to keep a reflective journal. The focus-group interviews were held with students.

### 3.4. Data Analysis

Data analysis happened in two stages:

1. Through the group interpretative method, participants made judgments about the achievements of our project goals, practices of inclusion in our context, and our change and growth.
2. The researcher (first author) analysed different sets of data from focus-group interviews, minutes of discussion and group interpretative meetings, student focus-group interviews, reflective journals, and observation data through inductive, thematic, qualitative data analysis. The thematic analysis was performed manually, with the first step being reading the data. Secondly, descriptive coding was conducted, after which axial coding was used to develop the categories. By identifying patterns, themes addressing the study's goals were used to derive the findings.

### 3.5. Ethical Considerations

Permission to conduct research was granted by the Institutional Research Ethics Committee of Nazarbayev University (93/19112018 approved 22 February 2019). Confidentiality was ensured by keeping the names of the participants, the college, and the city where the college was located anonymous. Students and teachers participating in the study signed written consent forms and were informed that participation was voluntary.

### 3.6. Trustworthiness

To maintain trustworthiness, we ensured credibility through data triangulation. This means that the different sources of data from the CAR were compared and analysed. Transferability was ensured through the prolonged systematisation of the research process by setting the goals and the schedule of research activities. To attain dependability, the process of data collection was aligned with the CAR process, and a detailed description of the research methods was written. Confirmability was ensured through constant interaction with the participants of the study, and all activities of data collection, analysis, and interpretation were documented to develop an audit trail. To ensure conformability, we member-checked transcripts [33].

## 4. Findings

In this section, we present our findings. First, we provide an overview of the state of inclusive education and practices at the selected TVET college at the start of the CAR; then, we outline our findings from after we had conducted CAR. Therefore, the analysis of data divides the CAR process into the analysis of data from the planning and observation stages (initial phase) and the action and reflection stages (post-CAR phase). The findings are presented with discussions focused on themes that were harvested from the data.

### 4.1. Findings from the Initial Phase

With the findings of the initial phase, we intended to answer the following research question: *To what extent are teaching practices in TVETIs inclusive?*

The analysis of data from the CAR stages of the CAR was guided by the following question: What is the state of inclusive education at the college, to what extent is the college inclusive, and which practices promote inclusion?

### 4.2. Inclusive Teaching

The analysis of data indicated that the understanding of inclusive education and its purpose was influenced by the Soviet legacy of special education, which was based on the

medical model that segregated students with disabilities. For instance, there was a general belief that inclusive education involved education for students with special educational needs and disabilities, as one of the teachers stated: *“Well the fact that inclusive education includes every student did not cross my mind, I always thought it was for certain students”*. It was also evident that most teachers in the TVET college experienced a lack of skills and knowledge about how to implement inclusive education in their classrooms. This quote attests to this: *“While we have been trying our best to support students with disabilities, we do not have the training in the new methodologies”*. The teacher did not know how to develop a teaching strategy for inclusion. The analysis of their workbooks showed that they planned their lesson in a traditional way, i.e., a lecture approach. The teaching at the college was very individualistic: each teacher focused on covering the syllabus. There was a lack of knowledge about different teaching practices that could enable teachers to support students with disabilities. During a planning meeting, one of the teachers said: *“it would be important during CAR if we could learn about the different ways to teach students with disabilities”*.

#### 4.3. Inclusive Learning and Learning Support

The results of the analysis show that learning was an individual endeavour by students, and teachers did not facilitate learning in such a way that the educational needs of students with disabilities were catered for. When asked about the extent of support during a focus-group interview, one of the students with a disability said: *“While my teachers are doing their best to support our learning, I think it is not sufficient”*. The students were learning new knowledge based on how it was presented and organised. The analysis of students' learning material showed that there was reliance on giving students notes. The absence of learning support personnel seemed a barrier to effectively supporting students with disabilities. When asked about who provides additional support according to their needs, one of the students with a disability indicated: *“I think it would be important to get additional support persons, especially for us, who are visually impaired”*. The college did not have a disability services office, and as such, supporting the students with disabilities was left mostly to the individual teachers. While some students attempted to work together in learning, collaboration between students was weak, especially between students with and without disabilities. When asked if they worked together, one of the students with disabilities stated: *“Yes, but it is not organised, we ask for help whenever we need it from fellow students”*.

#### 4.4. Environment

While there was an attempt on the part of all college stakeholders to develop an inclusive and welcoming environment, the college infrastructure and classrooms just militated against the noble idea of inclusion. During a planning meeting, when asked about what initiatives the college has to include students with disabilities, one of the teachers postulated: *“We have thought well about how we can create a conducive environment for students with disabilities, but the funding and resources are not on our side”*. There was a general difficulty on the part of the students with disabilities to access certain buildings without assistance from others. However, such assistance often came late. When asked how they navigate their way through the college, one of the students with a physical disability indicated: *“It is always a struggle for me if I have to move from one building to the other”*. The building has fewer signposts to assist students with disabilities with access. The observation of classrooms showed that their arrangement was still traditional, with desks in rows.

#### 4.5. Values, Beliefs, and Attitudes

While there was a generally positive attitude towards inclusive education at the college, the analysis of data shows that teachers' beliefs about inclusion and its prospects for success had not changed much. For instance, when asked about whether they thought students with disabilities should be taught at the college or not, one of the teachers stated: *“Although I am not against students with disabilities being here at our institution, I think creating a more specialised college would be more fruitful because we are not trained in specialised methodologies”*.

This study has shown that values such as tolerance, respect, acceptance, and belongingness have been infused into the college academic culture. but more needs to be done. When students with disabilities were asked about how they feel on campus and in the classroom, one of them said: *“yes, our teachers and fellow students accept us but most of the time we are left on our own to deal with challenges we face, there are also still stereotypes about disabled people”*. There was evidence of a lack of criticality and reflexivity towards their own teaching practices by teachers at the college.

#### 4.6. Assessment

It became evident at the start of our CAR process that the assessment practices at the college were normative: they expected students with disabilities to conform rather than tap into their abilities. When asked about how assessments are responding to students' needs, one of the teachers said: *“well our assessments are the same for all students, but we do provide some support to students with disabilities”*. The analysis of the teacher and student assessment documents revealed that there was an over-emphasis on standardisation and assessments and a heavy reliance on summative assessment.

#### 4.7. Findings from the Post-CAR Phase

The findings of the post-CAR phase aimed at answering the research question: to what extent do teaching and learning practices at TVETIs promote the inclusion of adults with disabilities?

Using Bronfenbrenner's bio-ecological theory, the interpretation of data analysis pointed out that the support of students with disabilities seems to be expedited by a multi-systems approach. The following discussion summarises the college systems that played a role in supporting students with disabilities within an inclusive environment during the CAR.

Table 1 below presents a summary of factors contributing to the inclusion of students with disabilities at a TVET college in the Kazakhstani context.

**Table 1.** Factors promoting inclusion of Students with disability.

System	Systemic Aspects Contributing to Student Support	Factors Promoting Inclusion of Students with Disability
Microsystem	Teaching	Developing a teaching strategy to support diverse students Collaborative teaching Teacher skills and competency development Epistemological access to pedagogical content knowledge
	Learning	Developing student-centred inclusive learning skills Capacitating learning support staff Collaborative learning
	Assessment	Enabling assessment practices
Mesosystem	learning support	Relationships Teacher student interactiveness
Exosystem	Environment	Non-governmental organisations, health, and social services, inclusive organisational structures, infrastructure
Macrosystem	Values, Beliefs, and Attitudes	Education policy (medical vs. social), cultural norms towards disability
Chronosystem	Historic legacy	Soviet legacy

#### 4.8. Microsystem

The analysis of CAR data indicates that developing an inclusive curriculum at the micro classroom level was important for making inclusion work at the college classroom level. As one of the teachers reflected: *"I have learned how to plan for students with disabilities curriculum-wise. i.e., how I assess their needs and develop Individual Education Plans to respond to such needs"* Therefore, enhancing teachers' curriculum development skills was critical to the development of an inclusive teaching strategy to support students with and without disabilities. The teacher's understanding of the needs of students, including those with disabilities, created a possibility for equitable support. When asked about how they felt about what teachers did in their classes during the CAR, one of the students with disabilities had this to say: *"During this time working with teachers it is clear that efforts were made to support us both individually and as a group, this helped us learn better"*. It also enabled teachers to make informed choices about teaching and students' learning that guaranteed epistemological access. Reflecting on supporting students with a disability during the CAR, one of the teachers indicated: *"When one knows the full extent of the student's need, one can think and act accordingly, I mean in planning and executing your teaching plan"* The ability of teachers to practice collaborative teaching, differentiated instruction, and curriculum adaptation was pivotal for the support of students with disabilities. The application of diverse teaching approaches during the CAR seemed to have empowered both teachers and students. These quotes from the teacher and student support this: *"The fact that we applied different teaching methodologies, ones directed at the group and others at an individual student provides us with the opportunity to address the needs of different students including those with disabilities"* *"I liked the fact that teachers applied different approaches to support us, as a student with visual impairment, infusing the use of braille to make our learning material accessible before the lessons were very helpful"*.

It is also evident that during the CAR, supporting students with disabilities within an inclusive classroom needed to be empowered with different styles and approaches to learning. The fact that students embarked on student-centred collaborative and cooperative learning and peer tutoring as learning strategies presented learning alternatives. When asked to reflect on how their learning has changed, one of the students with a disability posited: *"I think learning together with peers provided me with the opportunity to learn and learn from others, one does not feel isolated"*. The arrangement of the learning content in such a way that it was accessible for students with visual impairments went a long way to minimise inaccessibility. Students praised the integration of braille in their teaching. It also became apparent that students with disabilities required additional support from tutors and peers; these favourable gestures made them feel welcomed, and thus, they strived for success. While the college did not have a disability unit, establishing comprehensive stakeholder support for students with disabilities created a conducive network of learning support. One of the students with a disability had this to say in reflection: *"The fact that teachers allocated a peer for support made things easy for me as a visually impaired student, the anxiety of having to deal with the environmental challenges was dealt with"*.

The data show that using solely normative assessments disadvantaged students. It was evident that the application of a variety of assessment strategies provides students, especially those with a disability, with the choice to perform and demonstrate their knowledge in a manner that responds to their educational needs. The use of criterion-based assessments made sure that students were not competing with their peers but striving for their learning goals. The analysis of assessment records showed that students achieved their individual learning goals well when they were not put under pressure to meet the normative standard. The following quotes from the data from one of the teachers and a student with a disability attest to this: *"As a visually impaired student I found oral assessment more profound as I could listen rather than see"*, *"I have realised that students with disability, especially with visually impaired their listening sense is very developed as such one must take advantage of this ability"*.

#### 4.9. Mesosystem

This study has shown that the zone of proximal development was critical and that students with disabilities learn from mutual relationships with both their teachers and fellow students. While reflecting on their learning journey during the CAR, one of the students with disability averred: *“I have learned more from my peers than I would try to learn alone from the teachers”*. While the college did not have a disability unit, students with disabilities were supported both outside and inside classrooms. The appointment of a support guide (a fellow student) to aid their visually impaired students seems to have made a huge impact. As one of the students with a disability suggested: *“As a visually impaired student, having a close guide all the time creates a sense of assurance for my next learning or social step”*. The fact that teachers had one one-on-one support meetings with students with a disability seems to have unleashed their voices in terms of how well they could be supported to succeed in their learning, and it also informed future teaching plans. In reflecting on their role during the CAR, a student with disability cited: *“For the first time I felt that I was part of my learning process, it is so good that I could also share my views about my learning, fears and challenges”*.

#### 4.10. Exosystem

During the CAR, the professional learning community mobilised the different stakeholders for support. It is evident in this study that to sustain the inclusion of students with disabilities, the support of NGOs and health service-providing institutions created a conducive environment that enabled inclusion at the college. This created a supportive ecology for students with disabilities. This is evidenced in this quote from one of the teachers: *“Instead of struggling alone and thinking about how you can support students with disabilities, I have realised that stakeholder involvement provides you with the opportunity to gather different tips from all involved”*. While the infrastructure of the college was not designed to cater to diverse needs, including the needs of students with disabilities, the support mechanisms put in place by the professional learning community mitigated the impact of infrastructure on constraining the students with disabilities. This is evidenced in this quote from one of the teachers: *“While our college building was not meant for the student with disabilities, our efforts to re-organise the operations to accommodate the student with disabilities is our first steps in addressing this challenge”*.

#### 4.11. Macrosystem

This study has shown that colleges have not made the transition from the medical model of inclusion to the social model. However, during the CAR, measures were taken by both teachers and students to challenge their values, beliefs, and attitudes about disability. The CAR process has shown that cultural norms that existed at the college could be changed over time. While teachers confessed that they had to confront their understanding of disability and what it meant for social justice, they seemed content that at least they had begun making amends to their social convictions about disability. Reflecting on the CAR, one of the teachers indicated: *“While I cannot say I have completely changed, I can attest to the fact that I have more understanding about inclusive education and my attitude towards it has significantly improved for better”*.

#### 4.12. Chronosystem

The study has pointed out that the legacy of Soviet education continues and that both teachers and students at the college had to confront their past practices. For teachers, this included how they were trained, and for students, it included how they were treated all along. It was evident that the segregation of students with disabilities and allocation to specialised classes was a preferred mode of teaching and learning in the past; however, during the CAR, this was challenged, and both teachers and students thought including students with disabilities and making adjustments to the educative process was a way to go. Reflecting on the effect of the CAR on their past experiences, one of the teachers said:

*“Although the legacy of the Soviet medically oriented and segregated model of educational support will be with us for some time, I have learned through CAR that we can work overtime to change this, I think working collaboratively with all college stakeholders this can change”.*

#### 4.13. Principles Embedded in the Supportive Educative Process

It became evident from the study that the educative process, as evidenced during the CAR, should inherently be based on the three cardinal pillars, within which seven principles are embedded:

**Collaboration:** The analysis of data shows that the improvement in the collaboration of teachers and students within the CAR ensures interactiveness between the college faculty, leadership, and the wider community. This created a platform to generate ways in which students with disabilities could be supported, e.g., through the development of individual support plans. It also provided a platform for their voices to be heard. When reflecting on this process, both teachers and students hailed the fact that they could work together to change their teaching and learning environment. For example, it appeared as though teachers learned about how to develop inclusive teaching strategies for classes with diverse students.

**Criticality:** It seems as though the CAR ensured the enhancement of criticality as part of developing inclusive practices at the college. The curriculum design and development during the past Soviet education provided little room for a critique of practices. During the CAR, there was a general improvement in practices as teachers and students evaluated them closely. As one of the teachers reflected: *“I am happy that I could be part of developing an inclusive curriculum for our college and an inclusive strategy, that I could be open for critique to improve my practices; I hope we can sustain this beyond CAR”.* It seemed as though teachers learned how to evaluate their teaching practices and use evaluation feedback to improve.

**Reflexivity:** The group interpretative meeting during the CAR provided a platform for both teachers and students to reflect on their teaching and learning. Thus, reflexivity provided a platform on which to consider alternatives and make appropriate pedagogical and learning decisions. As one of the students with a disability indicated: *“It was so good that together with teachers, we can talk about what works and what doesn’t; this made both teachers and students focus on efficiency and effectiveness. It saved time and resources”.* This could mean that teachers and students have learned that pedagogical decisions must be evidenced based on information from their reflections.

**Innovation:** Testing alternatives and creating local theories ensured that innovative ways of support, teaching, and learning were generated. The CAR process led to the development of a bank or reservoir of practices that could be tapped into by other teachers and students in other contexts. The following statement supports this: *“During CAR, we tried different things in support of students with disability; I have now learned that I need to research my teaching approaches; this we can do with fellow teachers. It will help us know more about how students with disabilities learn and how we can address their needs”.* It appears as though teachers have learned that one-size-fits-all does not work and that trying alternative approaches is crucial to support students.

**Dialogical:** Evidence from the data shows that teaching and learning are dialogical processes that need constant dialogue and interaction between the parties concerned. The following quote by one of the teachers supports this: *“CAR has created a platform whereby both teachers and students are open about their thoughts, fears, and activities. In this process, we learned that open dialogue is important rather than acting on perceptions”.* It seemed as if teachers have learned that support is a collective effort that needs a dialogue among those who are involved.

**Transformative:** The fact that college teachers and students embarked on CAR to develop practices of inclusion seems to have produced a transformative process that is imbued with change initiative, change implementation, and change management. As one of the teachers reflected: *“The process of CAR has taught us that we should not be happy with the status quo; we should strive for improvement all the time. Change is a critical part of teaching and*

learning". The participants appeared to learn to initiate change, lead, implement change, and monitor change.

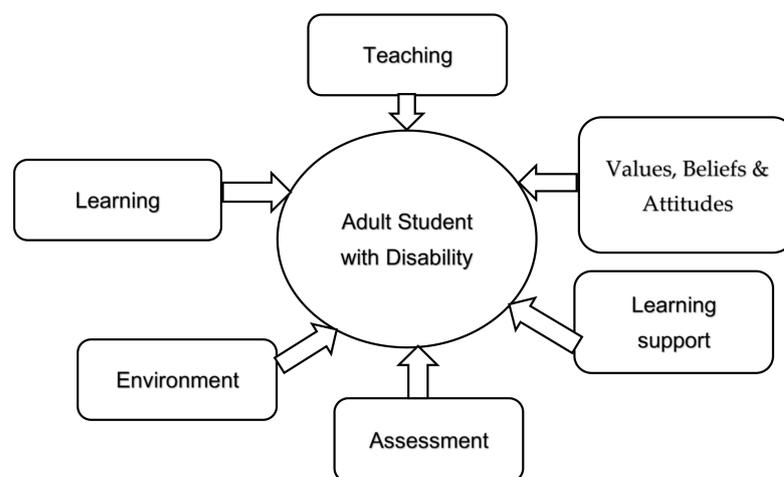
**Empowerment:** The involvement of teachers and students as participants in the CAR ensured that power relations were mitigated. As such, the CAR process empowered teachers and students to develop and create an all-inclusive, just, and equitable educative environment. As one of the students with disabilities said: *"The fact that teachers allowed us to share our views about our learning was important as we could enlighten our teachers about our needs, our abilities, and capabilities"*. Also, one of the teachers indicated: *"The fact that we can have an open conversation with my colleagues about our teaching and our students about their learning empowered me as a teacher. I can now make informed decisions and plan my teaching accordingly"*. This seemed to ensure inclusion. The balance of power between participants is essential so that all can act freely and feel like they belong to the community.

## 5. Discussion of Findings

This study aimed to explore the inclusivity of Kazakhstani TVETIs, identify practices promoting the inclusion of students with disabilities, and determine how (if necessary) TVETIs could be made more inclusive.

### 5.1. Practices Promoting the Inclusion of Students with Disabilities

The analysis of data has demonstrated that the practices of inclusion for students with disabilities in the Kazakhstani college context were based on six key strategic areas, i.e., teaching, learning, environment, assessment, learning support and values, beliefs, and attitudes. Figure 4 below depicts the relationship between the six areas and their ecosystemic influence on the support of a student with a disability.



**Figure 4.** Themes emerging from data analysis.

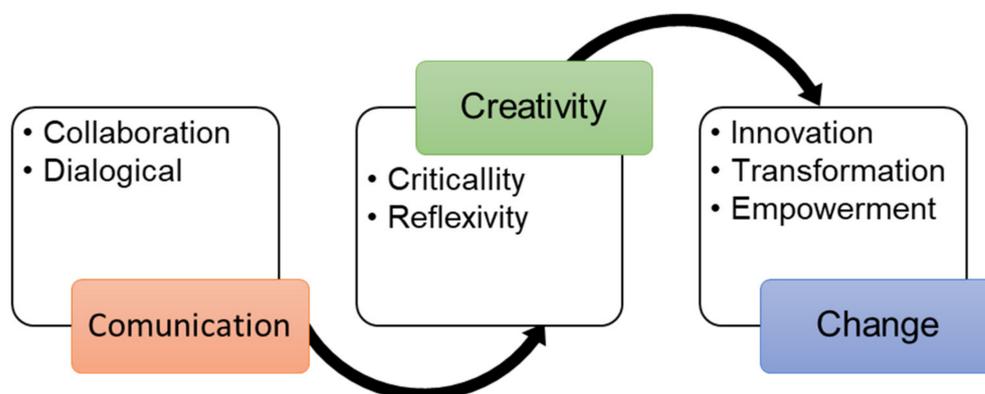
The ability and competency of TVETI teachers to develop inclusive strategies to support diverse students seem very important. This study confirmed Molbaek's [34] assertion that teachers' development of an inclusive strategy is an important task based on framing, relational, didactic, and organisational dimensions. The significance of a collaborative learning environment was evident in this study. As posited by Raihan and Lock [35] and supported by Slowikowski, Pilat, Smatter and Zielinski [36], interactive-ness as part of collaboration is a critical component of inclusive teaching and learning in TVET education contexts. Similarly, Lenah and John [37] postulate that collaborative teaching and learning in TVET contexts enable the voices of both teachers and students in discussions, participation, feedback, and reflections, which consolidate learning, as evidenced in the current study.

The current study emphasised that the inclusion of students with disabilities in Kazakhstani TVET colleges thrives if teachers are competent in facilitating an inclusive learning

environment. In their work, Omar, Zahar and Rashid [38] indicate that TVET teachers' competencies could be influenced by their knowledge, attitudes, and skills. This assertion was evident in this study. The study also found that the application of varied assessment methods could tap into the capabilities of the adult students with disabilities and thus respond to their needs; hence, Nkalane [39] postulates that in the TVET education context, assessment must reflect student diversity and be incorporated into the continuous assessment strategy. The importance of an ecosystemic approach towards support was evident in the current study. This aligns with Msibi's [40] proposal that for inclusion to succeed in the TVET context, the stakeholders need to be involved, as this would provide more opportunities for support. It was clear in this study that in TVET education context values, beliefs and attitudes play a pivotal role in enabling inclusive TVET. According to the International Labour Organisation [41], clarity on national policy for inclusion in TVET is significant as it could provide guidance and direction to practices at the college level. In this study, several critical aspects were needed to guide inclusive practice and support students with disabilities, i.e., a teaching methodology, teaching material, assessment, curriculum adaptation and differentiation, an understanding of abilities and capabilities of students with disabilities, and continuous reflection and change for the improvement of the educative process.

### 5.2. Underlying Principles for Inclusion of Students with Disability in TVETIs

The analysis of data found that practices of inclusion for students with disabilities in TVETIs were premised on three cardinal pillars, i.e., communication, creativity, and change, within which several principles were embedded, i.e., collaboration, dialogical, criticality, reflexivity, innovation, transformation, and empowerment. Figure 5 below presents a conceptual framework for addressing the inclusion of students with disabilities within the TVET context.



**Figure 5.** Three cardinal pillars of TVET students with disability support.

In this study, through CAR, the professional learning community realised that communication was at the heart of inclusion and support for students with disabilities. Chen [42] emphasises the significance of communication in building inclusive classrooms. Chen thinks the dialogue between teachers, students, and the community is critical in unmasking the barriers to the effective inclusion of students with disabilities in inclusive learning environments. On the same note, Baluk, Basij and Shchurko [43] postulate that such communication within an institution and outside is crucial. Communication is thought to be key for collaboration, which is an important component for inclusive environments. Messiou and Aiscow [44] believe that communication is a bridge for collaboration, which is important for building an inclusive atmosphere. This was evident in the current study. It is believed that building inclusive practices will require teachers who are critical and reflective about their work [45,46]. Many works on inclusion view the process of implementing it as transformative—for instance, the transformation of teachers, students, and stakeholders' behaviour [47], digital practice [48], curriculum [49], and the pedagogy and education

process [50]. The transformative nature of enabling inclusion leads to the empowerment of teachers, students, and in this case, the college community [51].

## 6. Conclusions

While the study was conducted in one college, it laid a foundation for discussions about supporting students with disabilities in the TVET college context. The following implications become relevant. More efforts are needed to develop a policy that addresses the Soviet legacy, i.e., moving away from the medical model to the social model of support. TVETIs could create a collaborative teaching environment and adopt values that may enable change of cultural norms, beliefs, and attitudes about diversity. TVETIs should enhance teachers' competencies and skills in developing inclusive teaching and support plans for students with disabilities and special needs. They should facilitate student-centred learning, ensure epistemic access to pedagogical content knowledge, employ interactive teaching, promote collaborative learning, and mobilise all stakeholders within and outside the college, adopting an ecological approach to student support. We are also mindful of the fact that the implementation of inclusive education in Kazakhstani education institutions is an ongoing process. However, following this CAR study, it seems there is a need for a grassroots approach to inclusion in TVET colleges, and the involvement of teachers, students, and college communities cannot be overemphasised. The CAR process in this study seems suggestive of the significance of local theory development regarding inclusive practices in TVET colleges.

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