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## 5 Abstract

6 Currently inclusive education is one of the contemporary issues in education in both developed  
7 and developing countries, though some countries are struggling to effectively implement it.

8 Research has demonstrated that inclusive education can only be firmly implemented if there is  
9 a proper curriculum, appropriate resources and good teacher pedagogical and knowledge skills.

10 It is therefore imperative for teacher education to empower pre-service teachers with necessary  
11 knowledge and pedagogical skills to teach inclusively. The article focused on Bachelor of

12 Education (B.Ed.) 3rd year student teachers' perceptions and views regarding inclusive

13 education curriculum implementation at a University of Technology in South Africa (UoT). A

14 qualitative research approach was employed with a case study design. Purposive sampling was

15 used to select 120 participants from 3rd year Bachelor of Education students from a

16 University of technology in South Africa. Structured focus group interviews were used to

17 collect data and data was analysed using thematic analysis.

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19 *Index terms*— inclusive, inclusive education, pre-service teachers, perception, teaching strategies, purposive  
20 sampling.

## 21 1 Introduction

22 Research has demonstrated that inclusive education can only be firmly implemented if both teachers and student  
23 teachers are exposed to proper curriculum, good teacher pedagogical and knowledge skills as well positive attitude

24 (Florian & Spratt 2013 and Schwab 2018). "Next to attitudes, teaching practices, as well as the available resources,  
25 can be listed as crucial key factors of successful inclusion" (Paseka, & Schwab 2020, p. 257). Teacher education

26 then should integrate these factors in the course programmes of the mainstream curriculum (Beyene & Tizazu  
27 2010 and Schwab 2018). Beyene and Tizazu (2010) further indicated that inclusive education does not segregate

28 children who have different abilities or needs. The knowledge of inclusive education, therefore, enables educators  
29 to embrace all learners regardless of their learning challenges. In broad terms, "inclusion is the response to

30 the human rights movement that requested equal rights for all people, independent of their gender, race, socio-  
31 economic background and/or disability in all areas of (public) life" (Paseka, & Schwab 2020, p. 254). "Inclusive

32 education is therefore, a continuous process of educational transformation, and a clear set of equity indicators"  
33 (UNESCO 2017, p. 2).

34 Suffice to say that "inclusive education cannot be effectively implemented without the involvement of teacher  
35 education and pedagogical concepts" (Loreman 2017; UNESCO 2017; Watkins 2017; Schwab 2019, quoted in

36 Paseka, & Schwab 2020, p. 255). In order to teach effectively in inclusive classrooms, an inclusive "education  
37 system and inclusive methods of teaching and learning should be established" (Paseka, & Schwab 2020, p.255).

38 This is one of the main reasons why it is imperative to equip student teachers with pedagogical skills and  
39 knowledge to teach inclusively in diverse mainstream classrooms. Teacher knowledge and good attitude is vital in

40 the implementation of any given curriculum. The premise is that positive teacher attitudes and sound knowledge  
41 are considered an important prerequisite for the successful inclusion of students with special educational needs

42 in the mainstream classrooms (Saloviita, 2015; Saloviita 2016; Saloviita & Tolvanen, 2017). Teachers should be  
43 able to embrace every child in the learning environment irrespective of their disabilities. No learner should be left

44 behind. who also researched about inclusive education in Finland found out that, teachers are strong advocates  
45 of inclusive education. It is, therefore, imperative that higher education institutions should address teachers'

46 concerns to promote inclusive education in schools.

47 The main question for this paper is, "What are the perceptions of 3<sup>rd</sup> year B.Ed. students on the  
48 implementation of inclusive education in South Africa?" Inclusive education emphasises that all learners are  
49 capable to learn irrespective of their different abilities and disabilities (Hayes and Bulat 2017). However, it  
50 concerns that despite the call and efforts to ensure that everyone has the right to be educated in inclusive  
51 classrooms, learners with disabilities are still faced with challenges (ACFP, 2011). To achieve this, Dalton,  
52 McKenzie, and Kahonde (2012) prosed that the rules prescribed in the Universal Design for Learning (UDL)  
53 should be implemented to accommodate all learners in the learning activity.

54 The South African "government thus recognised both the need for the rights of disabled people to be protected  
55 as well as their involvement and participation in matters affecting their lives" (Mutanga 2017, p.136). However,  
56 despite these numerous policies and rules (UDL, calls for the accommodation of all learners in the teaching  
57 and learning activity Majoko and Phasha (2018) found that universities do not educate student teachers with  
58 relevant theories of inclusive education. They further found that practicing teachers lack the skills and knowledge  
59 to understand that inclusive education means education for all. Eloff and Kgwete (2007) who had also conducted  
60 a similar research found out that teachers still discriminate and label learners as 'physical disabled,' or 'deaf' or  
61 'blind' learners, rather than diverse learners. The labelling of learners by teachers is a big issue and shows the  
62 discrepancy in the training of teachers for inclusive classrooms. Therefore, universities must mediate and use  
63 relevant tools and prepare student teachers to teach in an inclusive environment. Educators who teach inclusively  
64 are supposed to be adequately trained to handle children with different disabilities in mainstream classes. Hence,  
65 teachers in inclusive classes are expected to be more qualified in recognising strengths and weaknesses of their  
66 learners and are therefore able to support the needs of individual students ??Paseka & Schwab, 2020, p. 258).  
67 This can easily be achieved if teacher education has a good knowledge-based didactic concept and/or by using  
68 various methods to motivate learners in different ways (Florian and Spratt 2013;Tjernberg and Mattson 2014).  
69 This research paper was written to find out pre-service teachers' perceptions towards inclusive education.

## 70 **2 II.**

### 71 **3 Research Problem**

72 Currently inclusive education is one of the contemporary issues in education in both developed and developing  
73 countries, though some countries are struggling to effectively implement it. Inclusive education should be  
74 implemented with uttermost care because children need to be taught inclusively in the same learning space.  
75 Additionally, inclusive education gives every child the fundamental right to access education in mainstream  
76 classrooms and not be excluded. This is the reason why it has become one of the contemporary issues in  
77 education globally. However, the vision of full inclusion is unachievable because teachers and lecturers lack the  
78 knowhow of how to teach inclusively.

79 Many researchers demonstrated that inclusive education can only be firmly implemented if there is a proper  
80 curriculum, appropriate resources, and good teacher pedagogical and knowledge skills (Monico et al 2018; Paseka  
81 & Schwab, 2020). For effective implementation, this research article advocates for the integration of inclusion  
82 education into teacher education programmes. The integration of inclusion education programmes will empower  
83 pre-service teachers with knowledge and good pedagogical skills. Teacher education can ensure the effective  
84 implementation of inclusive education. This can easily be done through the curriculum and policies. It is  
85 therefore," considered that what is needed is a new theory that integrates theory and research to provide effective  
86 education for all children" (Hornby, 2015, p. 237).

### 87 **4 a) Research Focus**

88 The focus of this research article was to find out pre-service teachers' perspectives on the implementation of  
89 inclusive education. Engestrom's Activity Theory was used as lens to evaluate the interrelationship between  
90 pre-service teachers and their learners in an inclusive classroom.

### 91 **5 b) Research Aim**

92 The aim of this research was to understand the perceptions of student teachers towards the implementation of  
93 inclusive education in South Africa.

### 94 **6 c) Research Questions**

95 The research was informed by the following research questions: 1. Do student teachers understand inclusive  
96 education? 2. Do student teachers possess inclusive education teaching strategies? 3. Are student teachers aware  
97 of the South African inclusive education polices?III.

## 98 **7 Theoretical Framework**

99 This study is underpinned by Engestrom's Activity Theory. According to the Activity Theory human development  
100 is as a result of human activities and social interaction in any given environment. The theory stresses the  
101 importance of collaboration in organisations and also in learning institutions. Research has widely acknowledged

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102 that this collaboration can have a positive impact on learning performance (Fulford, 2014). In this research article  
103 Engestrom's Activity Theory was used as lens to evaluate the interrelationship between pre-service teachers and  
104 their learners in an inclusive classroom. This interrelationship in the Activity Theory involves, subjects, objects,  
105 and mediating tools. The subject or an agent of an action, in this context are the B.Ed. students (pre-service  
106 teachers) as future teachers expected to teach inclusively in their classrooms. The subjects (B.Ed. student  
107 teachers) are expected to use tools (inclusive education policies, pedagogical concepts, and knowledge from  
108 university modules) to teach effectively in midstream schools.

109 The Activity Theory is relevant for this article because it unveils the core importance of inclusive education.  
110 The theory also assists the researchers to acknowledge different angles of inclusive education. This then will  
111 enable the researchers to find out how B.Ed. students (pre-service teachers) perceive inclusive education. The  
112 fundamental learning activities take place in the centre of the triangle labelled consumption. In the centre that's  
113 where learning takes place. The teacher uses different activities, strategies to get to each learner regardless of  
114 their disabilities. Within this framework evaluation is conducted from the point of view of the subject forming  
115 the focus of the action (Engestrom 1987). The subject uses mediated tools to reach the object. Kessler (2020)  
116 emphasised that a tool can be anything used in the transformation process. In this context, the tool are inclusive  
117 education documents which teachers are familiar with in South Africa which include White Paper 6 and National  
118 Strategy on Screening, Identification, Assessment and Support (SIAS). Meditation is the preparation teachers do  
119 in order to disseminate knowledge to the objects (learners). This can also help educators respond to individual  
120 variability and address adversity.

121 The learner (the object in the diagram) is the focal point where all the learning activities are directed. The  
122 learning outcomes are then observed to find out if there will be any change of behaviour because of the activity.  
123 This according to the Activity should take place in the mainstream classrooms. Engestrom (1987) highlighted  
124 that the rules components should be directed to the explicit and implicit regulations, norms and conversations  
125 that constrain actions and interactions within the activity system. In this context, rules refer to policy and  
126 course content that guide how inclusive education must be carried out. The whole Activity Triangle reflects the  
127 notion that learning activity should take place in a social learning environment. Furthermore, the learner who  
128 is referred to as an object learns better in a community. This can be explained from a view that, learners get  
129 encouraged when they see their peers performing a task. Therefore, when the Activity Theory is allied in an  
130 inclusive classroom all learners get involved in the given task regardless of their disabilities.

131 In this regard, the community refers to the teachers, parents, society, and prospective teachers (B.Ed. students)  
132 who can be referred to as the community of practice. The distribution of learning activities describes how the  
133 learner and the activity relate to the whole Activity Triangle which is referred to the community. Division of  
134 labour refers to the government, teachers, parents, and learners. Outcomes refer to the expected results after the  
135 implementation of inclusive education in schools.

136 Within the triangle is where the production and consumption of knowledge takes place, in other words, that  
137 is where learning takes place. The Activity Triangle (AT) therefore explains the expansive learning which can be  
138 used in an inclusive education environment. Vygotsky calls it a zone of proximal development (ZPD) (Vygotsky,  
139 1986). In this zone teachers should encourage and accept student autonomy and initiative. If student teachers are  
140 trained this way, teaching in an inclusive class will not such a challenge. It is therefore of fundamental importance  
141 that curricula and course programmes be designed with the Activity Theory in mind. This will equip pre-service  
142 teachers with the necessary tools to teach in inclusive classes.

143 Bearing in mind that one of the key objectives of higher education is to encourage fundamental changes  
144 in learners' understanding of what learning constitutes and the effects it has on them and teachers as well  
145 (Harrison, 2007, Ohajunwa, et al 2014)). Researchers argue instead for learning approaches which will change  
146 teacher education curriculum in order to produce educators who are able to teach inclusively. The utilization of  
147 the Activity theory (AT) enhances the interpretation of human interaction, in learning systems (Naismith, et al,  
148 2004, Owen 2014). The Activity Theory explicitly points out that learners develop high order functions when they  
149 interact with the external world (Zhou & Brown 2017). HEIs should therefore concentrate more on empowering  
150 student teachers with the ability to contextualise their teaching so that learners will be able to apply their  
151 knowledge in real life situations (Owen 2014). AT assists in providing a way of teaching learners with different  
152 disabilities in the same learning environment. The teacher is however, encouraged to vary teaching strategies and  
153 activities. This is done through the division of labour and the distribution of tasks as illustrated in the Activity  
154 Theory. Continuous development is very crucial in any learning environment (Owen 2014). This statement is  
155 agreeing with Chunk, (2012) and Owen, (2014) who are of the opinion that learners who are exposed to this type  
156 of teaching learn better and understand learning materials better. This is to say learners are actively involved in  
157 learning activities in social setting and knowledge is actively constructed through interaction and interpersonal  
158 exchanges. This is strengthened by Owen (2014) who encouraged the utilisation of scaffolding in an inclusive  
159 classroom. In this regard social interaction enhances active participation and collaboration with gifted peers or a  
160 teacher, a concept known as 'scaffolding' (Owen 2014). This is also supported by social learning approaches which  
161 place great significance on learning with other people, through interpersonal interactions, either face-to-face or  
162 in a team as a means of enhancing participation (Owen 2014). Furthermore, it must be noted that inclusion  
163 education needs various players to be actively involved to implement it effectively (Paseka & Schwab 2020). This  
164 is strongly emphasised in the AT, looking at how all the activities are interwoven in the triangle. Teachers then

165 should migrate from the old way of teaching to new strategies which are learner centred as emphasised by the  
166 Activity Theory. Bagarukayo et al (2016) also encouraged active learning and practice for successful academic  
167 engagement and development of creativity in the classroom. This is agreeing with Vygotsky's model of learning  
168 which encourages mediation where a student is assisted by a More Knowledgeable Other (MKO) to get to the  
169 Zone of Proximal Development (ZPD) for effective learning to take place (Hardman & Amory, 2014).

170 It is of great importance to teach integrated programmes to develop multiple representations in learners  
171 (Blömeke et al 2014). The same authors went further urging that, the integration of content will assist learners to  
172 engage effectively in class activities that need the application of concepts and skills. This theoretical framework  
173 provides relevant lenses through which student teachers will be assisted on the implementation of inclusive  
174 education.

175 The design of curricula and courses must therefore encourage engagement with tasks, peers, teachers, and the  
176 community. This paper advocates that student teachers should be equipped with teaching tools that will enable  
177 them to impart knowledge in an inclusive classroom. Mainstream-school teachers are the most important assets  
178 for learners with special educational needs (or diverse conditions) if we hope to achieve real inclusion (Monico et  
179 al 2018). The same source went further saying, teaching experience, attitudes, and knowledge can either promote  
180 or hinder efforts towards inclusion. We, however, argue that with proper training and guidance student teachers  
181 will be able to implement inclusive education in their mainstream classrooms.

182 IV.

## 183 8 Literature Review

184 The dawn of democracy in South Africa brought many anti-discriminatory legislative provisions one of them is  
185 inclusive education. Inclusion and inclusive education enjoy worldwide prominence through the advocacy they  
186 receive from the United Nations (UN). As a result of initiatives spearheaded by the UN, education is recognised as  
187 a fundamental human right. The 1994 United Nations' education for all deliberations that took place in Salamanca  
188 1994 compelled member states to produce policies acknowledging the importance of inclusive education Majoko  
189 & Phasha (2018). With the promulgation of the 2014 White Paper, the government of South Africa (through  
190 the Department of Higher Education and Training), is now eager to accommodate learners with disabilities  
191 in tertiary institutions Mutanga (2017). Grimes (2020) also noted that those few people with disabilities who  
192 managed to access higher are facing numerous challenges. There should a difference from what was happening and  
193 now because during the apartheid era, learners with disabilities were separated from the mainstream education  
194 system. Those who managed to get access to education, were enrolled into 'special schools', and were not given  
195 an opportunity to be in the same classes with the non-disabled students Mutanga (2017). This viewpoint is  
196 strengthened by Ohajunwa et al (2014) who said that South African higher education does not take the issues  
197 as issues of social injustice.

198 Conversely in Scotland inclusive education is being taken seriously because students with disabilities can access  
199 mainstream education easily (Brownell, Smith, Crockett & Griffin (2012). This is recommended because students  
200 with disabilities can access the common curriculum framework and they are also receiving the appropriate and  
201 targeted support (Brownell, Smith, Crockett & Griffin (2012). Austria is another country which is also integrating  
202 students with disabilities into higher education learning programmes (Be'i? 2020).

203 It is then imperative to train and equip teachers and lecturers with the knowledge of how to deal with students  
204 with significant disabilities when access the core curriculum with appropriate accommodations and modification.  
205 This is the reason why student teachers were chosen for this research since they are going to teach in mainstream  
206 classes inclusively. Additionally, they were also chosen because they are more responsive better than those in  
207 service. Furthermore, teachers as the most important stakeholders in the implementation of inclusive education so  
208 their views and attitudes towards learners with disabilities matter. Effective teaching in inclusive classes depends  
209 on teachers' capabilities about how to handle learners with disabilities. A positive attitude towards learners with  
210 disabilities will make the implementation of inclusive education an easy task (Thompson et al 2020).

## 211 9 a) Higher Education in South Africa and Inclusive

212 Education A report on the state of inclusive education in South Africa and its implications for teacher training  
213 programmes by Majoko & Phasha (2018), demonstrated that inclusive education programmes do not educate  
214 student teachers on relevant theories on inclusive education. The report further indicated that pre-service teacher  
215 training (PRESET) experience challenges including diverse learners in their teaching because they lack training  
216 which result in their inefficiency and low classroom skills and performance. The literature indicates that many  
217 in-service trainings of teachers (INSET) do not understand inclusive education as an education for all (Eloff &  
218 Kgwete; 2015; Mitchell 2015; Majoko & Phasha (2018). This was also echoed by Paseka & Schwab (2020)  
219 when they said that there is still work to be done for teacher education in developing inclusive education  
220 strategies practices to go beyond traditional ways of instruction. Another challenge was noted by Eloff & Kgwete  
221 (2015) who said that in-service teachers associate inclusive education with display, when they refer to learners  
222 as 'physical disabled', or 'deaf' or 'blind' learners, rather than all diverse learners. Learners with disabilities are  
223 still stigmatised by both educators and their peers. The use of language is also still a big issue, but language is  
224 beyond the scope of this research. It is however, very important to stress that teachers are very important and

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225 their roles should not be taken for granted, they need to be acknowledged and properly trained in order to make  
226 the implementation of inclusive education a success.

## 227 **10 b) Capacity within the Higher Education Institutions in** 228 **South Africa**

229 Research studies indicate that pre-service teachers expressed doubts about inclusive education Majoko & Phasha  
230 (2018). However, the British Council has taken an initiative to train and equip university lecturers with  
231 inclusive education knowledge in some institutions in South Africa. The implementation of inclusive education  
232 needs teamwork where all stakeholders work closely together. Institutions should, therefore, integrate learning  
233 programmes to accommodate learners with disabilities and work towards a common goal for a sustainable future  
234 (Mphemelang, Ntha & Kgosietsile 2019). Pre-service teachers need to be empowered so that they will be  
235 able to teach inclusively without many challenges. Inclusive education cannot be ignored anymore. Teacher  
236 education should be on the forefront so that inclusive education will be implemented effectively. Most countries  
237 are embracing inclusive education so that no learner will be left out. The main goal is to build a common  
238 understanding of inclusive education since it is perceived differently. This is also echoed by Mitchell (2015) who  
239 strongly believe that inclusive education is a multifaceted concept that requires educators at all levels of their  
240 systems to attend to vision, placement, curriculum, assessment, teaching, acceptance, access, support, resources,  
241 and leadership. It is highly recommended that higher education institutions should make sure that lecturers  
242 and students when they "classroom teachers have the responsibility to provide all students with well-paced,  
243 research-based instruction". Pre-service teachers must therefore be equipped with scientifically valid methods to  
244 teach effectively and confidently. They must be taught not to leave any child behind. Furthermore, Mastropieri  
245 & Scruggs, (2010) suggested that teacher with inclusive education understanding teach holistically and give  
246 encouragement to learners with disabilities.

## 247 **11 c) The Importance of Inclusive Education**

248 The importance of inclusive education cannot be over emphasised, in every classroom there is diversity, and this  
249 must be accepted and celebrated, hence teaching and learning must be directed towards inclusiveness. When  
250 children are taught inclusively, they are motivated, encouraged and this also builds their self-efficacy, their  
251 participation and engagement level increases as well. During the previous decades special needs learners were  
252 recognised through special schools, which can be considered as a segregation policy because they were taught  
253 separately. Currently inclusive education is advocating for all children to be taught in the same environment.  
254 This agrees with the social justice theory which says that justice must be demonstrated, and the welfare of the  
255 needy and the oppressed be protected with no stigmatization and separation (Be?i?, 2020).

256 In the US, for instance, Individuals with Disabilities Education Act (IDEA) 1997, IDEA 2004 advocated that  
257 children should be taught in the same environment no one should be discriminated in terms of disabilities. It  
258 is therefore stressed that all learners must be given the same opportunity to participate and progress in the  
259 general curriculum. Hence the focus should be directed towards teacher education since education plays a pivotal  
260 role in this regard. Inclusive education should therefore focus towards the accommodation of all learners into  
261 the mainstream curriculum (Pit-ten Cate, Markova, Krischler & Krolak-Schwerdt, 2018). The focus should also  
262 should be on using different teaching strategies so that learners will be actively engaged in learning activities.  
263 Mutual relationships and respect in the learning environment should be encouraged and reinforced. Teachers are  
264 expected to teach an increasingly heterogeneous population without sufficient knowledge of inclusive education  
265 (Pit-ten Cate, Markova, Krischler & Krolak-Schwerdt, 2018). Hence this paper concerns factors associated  
266 with the understanding of a successful implementation of inclusive education in higher education, paying special  
267 attention on pre-service teachers.

268 For a successful implementation of inclusive education in every learning environment teacher empowerment  
269 is very essential. The successful implementation of inclusive practice is largely dependent on teachers, (Pit-ten  
270 Cate et al 2018).

271 V.

## 272 **12 Research Methodology a) Research Design**

273 This research adopted a qualitative approach. The aim of this qualitative study was to understand the pre-  
274 service students' perspectives towards inclusive education. In support of qualitative approach de Villiers, Dumay  
275 and Maroun, (2019) said that this approach is highly recommended especially when the researcher is studying  
276 complex interconnections. This assists the researcher not to reduce the complexity to simple numbers or variables  
277 which quantitative approach focus on. Qualitative approach was also utilised because the approach enables  
278 the researcher to focus on the individual experience, rather than conclusions that can be drawn from large  
279 groups. Focus groups with ten participants were employed to collect the data from 120 participants. These 120  
280 participants were chosen because they were the ones who were introduced to inclusive education. Participants  
281 were interviewed in small focus groups because participants knew each this also enabled the students to speak  
282 freely. Focus groups on the other hand favour a good rapport and facilitate that students can openly share

283 their experiences (Braun and Clarke 2013). All the 12 focus groups were facilitated by the same researcher,  
284 using the same interview questions. A structured interview schedule was opted for to keep the conversation  
285 focused. Another factor why structured questions were used is that solemnly for uniformity and easy to generalise.  
286 Additionally, structured interview questions were also easy comparability. Furthermore, structured interviews  
287 are more consistent, fair and effective.

288 Qualitative approach was also employed to move to a deeper understanding of student teachers' perception of  
289 inclusive education because qualitative research seeks to develop an understanding of individuals and events in  
290 their natural state, considering the relevant context (Leedy and Ormrod 2018). Researchers were also trying to get  
291 a better understanding through first-hand experience, truthful reporting, and quotations of actual conversations.  
292 In qualitative research, the interpretation of data is achieved by means of a set criterion to determine the depth  
293 of quality of the understanding of findings (Leedy and Ormrod 2018). Procedures are not strictly formalized,  
294 the scope is more likely to be undefined, and a more philosophical mode is adopted (De Vos, Strydom &  
295 Delport 2013:23). This study aimed to understand the perceptions of students on the implementation of inclusive  
296 education as eluded earlier.

297 The researchers distanced themselves from judgements and preconceptions about their own understanding of  
298 inclusive education to come up with reliable and valid results and conclusions.

### 299 **13 b) Population and Sampling**

300 The population consisted of 350 students from a university of technology in South Africa. Purposive sampling  
301 was used to select 120 students from a university of technology on their perceptions on the implementation of  
302 inclusive education. The selection of 120 participations was reached on the premise that they were introduced  
303 to inclusive education. The common criterion of these participants is that they were all third level students were  
304 all introduced to inclusive education.

### 305 **14 c) Ethical Consideration**

306 Tshwane University of education granted permission for the research to be undertaken through the research  
307 committee. The purpose of the research was explained to the participants before the signing of the consent letter.  
308 Confidentiality was assured and the participation then signed the consent form agreeing to be interviewed.

### 309 **15 d) Research Instrument**

310 The researchers developed the instrument which was used to collect data. The instrument consisted of six  
311 questions. Questions were verified for validity and to check if they were of good quality and if they able to  
312 capture relevant data.

### 313 **16 e) Data Collection**

314 The purpose of this paper was to review the perceptions of student teachers towards inclusive education. To  
315 collect data, 120 students were interviewed on their perceptions regarding implementation of inclusive education.  
316 Interview sessions were all done in the same classroom. All the students were familiar with the venue. Each  
317 participation was asked to sign a consent form before questions were asked. They also chose the time which was  
318 convenient to them. The interviewer was one of the lecturers who was also part of the research team. All the  
319 responses were recorded and kept by the researchers in a safe place.

### 320 **17 f) Data Analysis**

321 Data analysis can be referred to as the breaking down of collected data into manageable chunks into to come up  
322 with specific themes from each research question ??Sauron, 2015). In this article interview responses are reported  
323 in six themes identified in the focus group interview, the definition inclusive education, the knowledge of inclusive  
324 education, teaching strategies, the knowledge of South African inclusive education polices, the implementation of  
325 inclusive education and teaching in an inclusive environment. The following section illustrates how participants  
326 conceptualised inclusive education. The actual words used by the student teachers were used in most cases, to  
327 keep the actual meaning of their arguments. The participants were drawn from students who were studying  
328 towards a Bachelor of Education degree. All the participants were going to teach in secondary schools and at  
329 this institution there are three areas of specialisation, Economic and Management Sciences, Mathematics and  
330 Science and Technology Education.

### 331 **18 The profile of the students**

### 332 **19 Qualification**

333 Area of specialisation Theme 1: The definition of inclusive education Participants knew the meaning of inclusive  
334 education. They agree that inclusive education does not discriminate learners in any form. Below is a sample of  
335 how one of participants defined inclusive education.

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336 R2= I would say inclusive education basically is having learners put together say learners with disabilities and  
337 those are not also whether, black, white etc.

## 338 **20 Theme 2: Knowledge of inclusive education**

339 The responses given by the participants revealed that they were introduced to inclusive education in year two,  
340 but no teaching strategies learnt to assist them teach in inclusive classroom. (See the response given below).  
341 R2= Yeah, we did learn something in 2 nd year.

## 342 **21 Theme 3: Teaching strategies**

343 The responses to question three indicated that student teachers were not empowered to inclusive classrooms.  
344 The response is just a teaching strategy not specifically an inclusive education one. See the explanation given  
345 below. R1= Yes, there is a technique that our lecturer showed us before we went for teaching practice, it is a  
346 form of inclusive education because it is a robot where you give learners cards. Three colours, green, red, and  
347 yellow. Then you give each learner all the three cards, each learner should put their cards on the table. If they  
348 do not understand, they will put on the red card, so there will be no learner who will be shy to say I do not  
349 understand because of certain reasons. ??o The answer to question four indicated that participants were aware of  
350 the policies in South Africa which give the learners the right to education and that learners should not be called  
351 by their form of disabilities. See the response below: R2=Ummmm, the constitution of South Africa, stipulates  
352 that, every child has the right to basic education, as a teacher I must ensure that I do my job at the best of my  
353 ability to ensure that children are protected. South African Schools Act, stipulates that, the rights of a learner,  
354 especially when education is concerned is of paramount importance. So as a teacher I must ensure that within  
355 my classroom learners know their rights and responsibilities.

## 356 **22 Theme 5: The implementation of inclusive education**

357 Participants knew that they should not discriminate and show respect to the learners. However, no participant  
358 really showed any evidence that they were ready to implement inclusive education in their classrooms.

## 359 **23 R1=**

## 360 **24 Discussion**

361 The focus of the paper was to find out preservice teachers' perspective on inclusive education. The analysed  
362 interview data revealed that most of the student teachers know what inclusive education entails and that it  
363 advocates for the embracement of all learners in the same learning environment. Inclusive education embraces  
364 all learners regardless of their form of disabilities or race in all areas of life (Paseka, & Schwab, 2020).  
365 However, student teachers did not show a sound knowledge of inclusive education. It seems like it was just an  
366 acknowledgement that the instructor says something about inclusive education since it has stimulated research on  
367 the reorganisation of schools to become more welcoming to diverse student bodies (Saloviita 2020). Participants  
368 were aware that learners are not supposed to be labelled by their disabilities. Conversely, Eloff and Kgwete's  
369 (2007) found out that teachers still discriminate and label learners as 'physical disabled,' or 'deaf' or 'blind'  
370 learners, rather than diverse learners.

371 The responses given by student teachers indicate that they are not adequately prepared in teach in an  
372 inclusive classroom. Majoko and Phasha (2018) also found that universities do not educate student teachers  
373 with relevant theories of inclusive education. This is agreeing with some researchers who argued that that  
374 inclusive education can only be firmly implemented if there is a proper curriculum, appropriate resources, and  
375 good teacher pedagogical and knowledge skills, (Florian & Spratt 2013 and Schwab 2018).

376 VII.

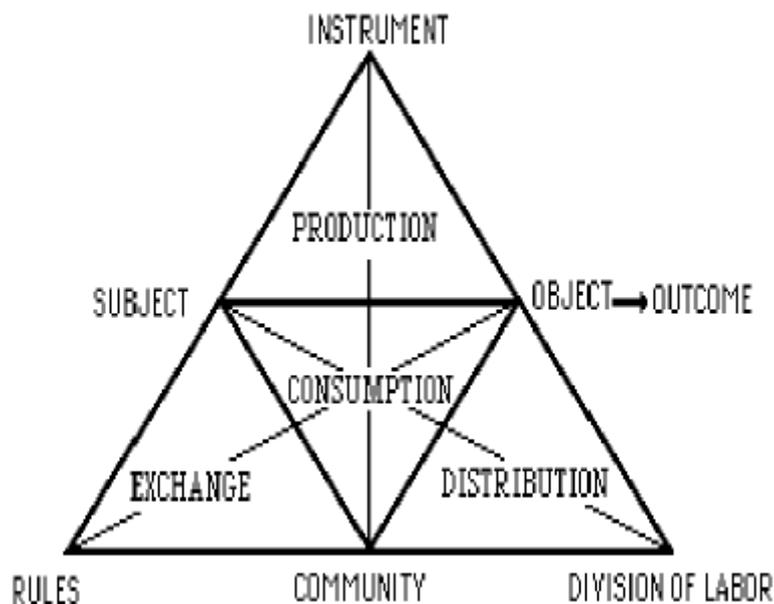
## 377 **25 Conclusion**

378 The study revealed that student teachers are aware of inclusive education, and they are willing to teach inclusively  
379 provided the institution equips them with appropriate techniques. Therefore, higher education institutions have  
380 a mandate to equip graduates with inclusive methods of teaching and learning in an inclusive environment. It  
381 is the duty of higher education institutions to address student teachers' concerns to promote inclusive education  
382 in the mainstream classrooms. It cannot be over stressed that higher education programs need to be support  
383 lecturers and student teachers so that the inclusive agenda will be realised. Numerous studies have demonstrated  
384 the need to promote inclusive education programs though some countries are still facing challenges in terms of  
385 teaching resources and personal.

## 386 26 VIII.

## 387 27 Recommendation

388 The study recommended that student teachers should be exposed to different teaching strategies to teach  
 389 efficiently and effectively in an inclusive environment. The study further recommends that all Bachelor  
 390 of Education programmes should emphasise inclusive education awareness and equip student teachers with  
 appropriate skills to embrace all learners without any form of discrimination. <sup>1</sup>



1

Figure 1: Figure 1 :

Then the yellow represents that they are not sure or not getting what you are saying, then you need to re-explain or they have another way of showing you something. When there's more greens it means you are on the right track, you understand, you need to make sure that in your lesson you have more green so that you know that you are on the right track, and everyone is getting the content you are teaching.

Theme 4: The knowledge of South African inclusive education polices.

Figure 2:

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<sup>1</sup>Pre-Service Teachers' Perceptions of Inclusive Education at a University of Technology in South Africa

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VI.

Figure 3:



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