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## Twenty-First Century Learning (21 CL) – South African Private Secondary Schools in KwaZulu-Natal

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**Abstract.** Globally, many educational systems were designed to produce a labour force to meet the requirements of previous industrial revolutions. Currently, in the fourth industrial revolution, the world is undergoing profound changes in all spheres. Learners need to be prepared for a future with novel jobs, radical information and communication technology (ICT), and global problems never previously encountered. Many countries have therefore, moved from traditional approaches to education, to 21 CL. 21 CL is application-driven, student-focused, and it incorporates intellectual, social, and emotional aptitudes. The purpose of this research is to provide an in-depth analysis of the 21 CL pedagogy. The study, therefore, investigates how some private South African secondary schools interpret and enact with 21 CL. The research is embedded in the positivist and interpretivist paradigms. The study utilizes a mixed-method research approach, because both quantitative and qualitative data are required to achieve the research objectives. The research strategy used was a case study, specifically a multiple-case study design. This research provides a more theoretical and practical information regarding the successful interpretation and enactment of 21 CL, in private secondary schools in KwaZulu-Natal. The research also provides current information on 21 CL globally. The research findings revealed that private secondary schools in KwaZulu-Natal were only in the initial stages of changing to 21 CL. The findings also revealed that the change to 21 CL can be facilitated by the design of a sustainable vision and well-defined plan of execution, as well as the effective training of school leaders.

**Keywords:** twenty-first century learning; information and communication technology; school-leadership development; private secondary schools; KwaZulu-Natal

## 1. Introduction

We are currently undergoing radical ICT transformations in almost all spheres of life, as we advance through the fourth industrial revolution, towards a potential fifth one, which already seem to be rapidly emerging (Claro et al., 2018; Bedir, 2019; Maphosa et al., 2020). COVID-19 has also accelerated ICT advancement (Le Grange, 2021; Maree, 2022). The rapid ICT developments have introduced significant global changes in education, which has necessitated pedagogical transformation (Hines & Lynch, 2019; Maphosa et al., 2020). Many countries have moved from conventional approaches to education, to 21 CL (McGuire, 2018; Bedir, 2019). 21 CL is student-centred, practical, inquiry-based, ICT aligned, inclusive of morals and attitudes; and it now focuses on the development of cognitive and affective competences (Varghese et al., 2019; Maphosa, 2021). ICT and effective school leadership are necessary and critical facets of 21 CL (Moyo & Hadebe, 2018; Ajmain et al., 2019; Munby, 2020).

Globally, many professions in the 21<sup>st</sup> century have simultaneously transformed with the global changes brought about by the fourth industrial revolution and now require individuals of a different calibre, with different 21<sup>st</sup> century competence (Cheng, 2017; Claro et al., 2018). Any form of employment that does not require a significant, or critical amount of some form of human input, can be replaced with advanced robotics and/or complex computer software, either currently, or in the near future (Mhlanga & Moloi, 2020; Maphosa, 2021).

However, the fourth industrial revolution has also given rise to new professions, such as ICT technicians, software developers, cybersecurity experts, social-media consultants, and data scientists. ICT innovations have also, fundamentally altered many aspects of human existence, such as the way we communicate, bank, buy, socialise, and learn (Bai & Song, 2018; Barrot, 2018; Maphosa, 2021).

In the light of the changes in the twenty-first century, many countries, have already transformed their educational systems to 21 CL whilst others are in different stages of the change process (Hines & Lynch, 2019). These countries have realised that traditional pedagogy does not have the capacity to prepare learners to be effective global citizens, whereas 21 CL, does have the potential to empower learners to be successful in the global arena (Clarke et al., 2014; Claro et al., 2018; Maphosa, 2021). African governments, such as those of South Africa, Ghana and Nigeria, have also started to change their educational systems, in order to become more 21 CL aligned (Agormedah et al., 2020; Ogbonnaya et al., 2020).

There are many different types of schools present in South Africa, ranging from old to new, private to public, and poor to wealthy (Mhlanga & Moloi, 2020). The need to change to 21 CL, driven by ICT, has been legislated by the South African Government from 1996. However, the extent of the interpretation and the enactment of 21 CL varies, according to the context of the different schools (Botha,

2016; Mabaso, 2017). Private schools have much more resources to engage with 21 CL when compared to public schools (Mudaly & Mudaly, 2021). Learner school fees, which are higher than that of public schools, are the major source of income for private schools in South Africa. Therefore, their finances are usually well managed with stringent monitoring procedures, unlike many public schools (Naidoo, 2019). To remain attractive to prospective learners, these private schools spend a substantial amount of their finances on resourcing their schools and engaging with innovative educational practices (Ramrathan, 2020). This has produced the ideal climate and culture for the interpretation and enactment of 21 CL (Subekti, 2020).

Better working conditions for teachers in private schools, allow, and encourage teachers to experiment with innovations in education (Naidoo, 2019). For these reasons, the context of this study is therefore on private schools rather than on public schools, in KwaZulu-Natal.

The focus of 21 CL is the application of knowledge in new and different situations rather than just on the memorisation of content knowledge through repetition (Bedir, 2019; Varghese et al., 2019). 21 CL is also characterised by being cross-disciplinary, enquiry-based and learner-centred (van Laar et al., 2017; Maphosa et al., 2020). The use of ICT and effective school leadership have proven to be vital components in creating innovative learning environments during the application of 21 CL (Toh et al., 2014; Maphosa, 2021). The 21<sup>st</sup> century competences included in 21 CL include social, emotional and cerebral abilities (Hakkinen et al., 2017; Siddiq et al., 2017; Abdurrahman et al., 2019). The objective of this study was to assess how 21 CL is interpreted and applied in private-secondary schools in KwaZulu-Natal. It therefore, provides in-depth information about 21 CL in private secondary schools in KwaZulu-Natal, as well as globally.

## **2. Literature Review and the Theoretical framework**

As the world progresses rapidly through the fourth industrial revolution, many countries have realised the need for a drastic change in current educational practices (Ogbonnaya et al., 2020). Globally, 21 CL is considered as a viable alternative for learners to survive in an ever-changing environment (Maphosa et al., 2020). South Africa has only recently embarked on the journey to 21 CL in the form of enquiry-based learning and ICT development, and whilst there is a large amount of literature on 21 CL globally, local research seems to be sparse (Mhlanga & Moloi, 2020). This research satisfies this research gap by providing more information about 21 CL in the unique South African context.

### *2.1.1 What is twenty-first century learning?*

Most traditional teaching and learning methods are based on the learning theory of Behaviourism (Lay & Osman, 2018). Whereas 21 CL is based more on the learning theories of Cognitivism, Constructivism and Constructionism (Ajmain et al., 2019). van Laar et al. (2017) explain that 21 CL involves skills and competencies that go beyond mere digital proficiencies, to include a wider range of cognitive, social and affective skills. 21 CL shifts the emphasis from the learning of facts to

the application of knowledge to solve real-life problems (Barrot, 2018; Varghese et al., 2019).

The United Nations Educational, Scientific and Cultural Organisation (UNESCO), describes 21<sup>st</sup> century competences in their Four Pillars of Learning, as including both the knowledge and skill set that would allow learners to be productive members of the modern global society (Hines & Lynch, 2019). Some of the competences include creativity, critical and innovative thinking, social and emotional intelligence, global citizenship, civic literacy, cross-cultural skills, self-direction, self-management, life-long learning, ethics, morals, values and communication, collaboration and information skills (Bai & Song, 2018; Maphosa, 2021).

These competences can be grouped into four main categories, namely: ways of cogitating, ways of interacting with others, tools for interacting with others, and skills for surviving in the modern world (Hakkinen et al., 2017). This is in line with UNESCO's Four Pillars of Learning, which are learning to be, learning to know, learning to do, and learning to live together (Cheng, 2017). McGuire (2018) explains that the 21<sup>st</sup> century competences from the four categories can be arranged in three incremental levels of competence. These include the cognitive domain, the intrapersonal domain, and the specific-skills domain (Barrot, 2018; McGuire, 2018).

21 CL is also learner-centred, with the learners taking greater responsibility for their own learning, from beginning to end (Lay & Osman, 2018). 21 CL involves a partnership between the teacher and learners, in which both parties are co-learners in a community of learning (Maphosa, 2021). The pedagogy of 21 CL also extensively uses the scientific method (Barrot, 2018). Cheng (2017); and Ajmain et al. (2019) also explain that 21 CL involves experiential learning or learning through experience.

### *2.1.2 The need for twenty-first century learning*

The world is becoming more complex socially, economically, professionally and digitally (Claro et al., 2018; Hashim et al., 2019). Some of the traditional employment opportunities have drastically changed. This has led to a demand for a labour force, with different competences (Howard et al., 2019; Maphosa, 2021). COVID-19 has been a further catalyst to the fourth industrial revolution, as countries rapidly move into a digital space (Mahaye, 2020; Maphosa, 2021). Global changes have necessitated a change in the educational sphere, in order for it to be germane in the 21<sup>st</sup> century (Subekti, 2020; Chirinda et al., 2021). 21 CL is considered a prerequisite for learners becoming successful in the modern world; and it has drawn much attention from all educational sectors (Hashim et al., 2019).

### *2.2.3 The interpretation and enactment of 21 CL in schools*

East Asia was one of the leading parts of the globe in introducing 21 CL into schools, in the late 1990's (Tong & Razniak, 2017). Some of the other leading countries in 21 CL include Canada, Australia, Mexico, Switzerland, Finland, England, and Germany (Mathew, 2018; Mayfield & Hester, 2018). Schools appear to have also discarded the fragmented use of 21 CL in disconnected and

compartmentalised learning programmes (Siddiq et al., 2017). Effective interpretation and enactment of 21 CL in schools has been characterised by a comprehensive and holistic adoption of the paradigm, by all components with a school (McGuire, 2018). Cheng (2017) warns that the political climate and aspirations of governments can play a key role in the extent to which 21 CL is interpreted and enacted.

The effective use of ICT has also expedited the interpretation and enactment process (Barrot, 2018; Lay & Osman, 2018). 21 CL is also characterised by enquiry-based project work, which is cross curricular in nature (Bai & Song, 2018). In addition, Lay and Osman (2018) propose an instructional strategy for 21 CL, which is broken down into five phases, namely: enquiry, discover, produce, communicate, and review. Nappi (2017) emphasises the incorporation of structured higher order questions in 21 CL.

McGuire (2018) explains that the effectiveness of 21 CL can be increased if schools that invest time and recourses to improve the reading, writing and mathematical skills of the students. 21 CL has also been successful, when time and resources have been made available to educate and develop teachers, in the latest pedagogical and ICT research (Nouri et al., 2019). In addition, 21 CL is facilitated when the teacher adopts a more personalised coaching approach, and the learners becoming more autonomous in their approach to learning (Maphosa, 2021).

Another common element that seems to emerge in the successful interpretation and enactment of 21 CL programmes is the establishment of strong partnerships between professional teaching practice and informative research, where one mutually informs the other (Bai & Song, 2018). 21 CL in schools can also be further facilitated by well-developed policies and plans, to measure and enact higher order learning programs (Heinrich & Kupers, 2018). Another essential component pertaining to the success of 21 CL is the professional development of a school's leadership team (Howard et al., 2019).

Finally, the entire interpretation and enactment process of 21 CL in schools, can adopt a more centralised approach or a more distributed approach, using system thinking (Tong & Raznaik, 2017). The centralised approach is directed towards smaller systems, whereas the distributed approach focuses on larger systems (Cheng, 2017).

#### *2.2.4 Positive outcomes of 21 CL*

Technological advancements in pedagogical approaches have provided evidence showing that 21 CL can facilitate learners producing and maintaining a higher standard of work, as well as them achieving more advanced learning outcomes (Varghese et al., 2019; Maphosa, 2021). Increased learner participation, performance and overall results have also accompanied the successful use of 21 CL (Kokare & Strautins, 2018; Bedir, 2019). Hashim et al. (2019) affirm that 21 CL leads to an improvement in learner's retention and application of knowledge, in higher order form of assessments. Ajmain et al. (2019) explain that 21 CL seems,

to not only positively affect learners; but it has improved teachers' interest, enthusiasm, and work ethic.

### 2.2.5 Concerns and challenges regarding 21 CL

One of the areas of concern involves learners, especially in higher grades, having difficulty with adjusting to the different teaching and learning approaches involved in 21 CL (Heinrich & Kupers, 2018). Learners might not be always willing to provide the extra commitment required in 21 CL (Botha, 2016). Although many tertiary institutions involved in teacher training, recognise the need to incorporate 21 CL into their curriculum, they still have been slow to initiate the change (Heinrich & Kupers, 2018; Ajmain et al., 2019).

The curricular and formalised assessment programs of many countries are examination, theory and rote learning-based, which lends itself to the adoption of traditional teaching methods (Claro et al., 2018; Moyo & Hadebe, 2018). The workload of teachers is also very demanding. Another concern regarding the interpretation and enactment of 21 CL is that teachers do not have sufficient time to effectively engage with it (Claro et al., 2018).

The aspect of quantitative assessments of 21<sup>st</sup> century competences, which are not examination-focused, is another stumbling block to 21 CL (Hakkinen et al., 2017). More research needs to be conducted into the assessment of effective 21<sup>st</sup> century competences (Cheng, 2017; McGuire, 2018). Figure 1 shows the crucial facets of 21 CL.

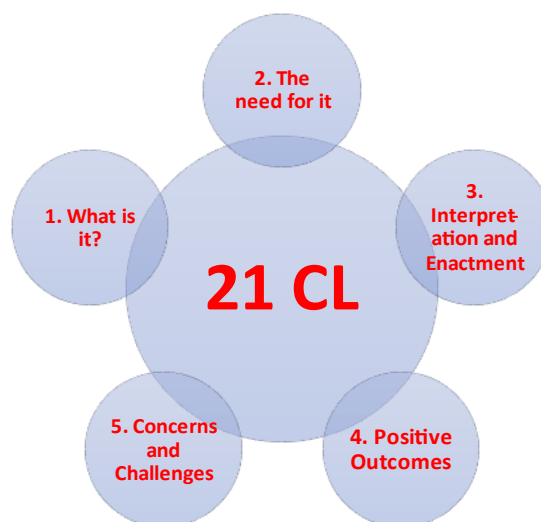


Figure 1: Crucial facets of 21 CL

### 3. Research Methods

The positivist and interpretivist paradigms formed the basis of the research methods in this study; because the attainment of the research objectives, necessitated the collection of the quantitative and qualitative data. The assumptions of positivism are that ontology, axiology, and epistemology already exist, are all singular and the same for everybody (Held, 2019). Interpretivism is subjective and attempts to gain an in-depth understanding of a particular phenomenon, from the perspectives of individuals, who have experienced the

phenomenon (Tilley, 2019). The adoption of two paradigms is aligned with the mixed-method research methodology that was employed.

The explanatory sequential mixed-method research design was used, whereby the quantitative data were collected first, and the qualitative data thereafter. The quantitative data from the online questionnaires were used to gauge the degree, to which the participating schools were acquainted with 21 CL. Schools were selected for the following qualitative data-selection phase by using the quantitative data. The individual and focus-group interviews provided crucial and detailed qualitative data, which were triangulated with the quantitative results.

A case study was selected as the research strategy in this study. This research strategy was chosen because it enabled the principal theme of 21 CL interpretation and enactment, in private secondary schools in KwaZulu-Natal, to be qualitatively explored. The specific type of case study used was the multiple-case study design; since school leaders from different private schools, were researched, using questionnaires, semi-structured interviews, and focus-group interviews (Appendix 1).

The Department of Education's online database was used to identify the fifty-five private secondary schools in KwaZulu-Natal. The contact details and physical addresses of the fifty-five schools were authenticated and recorded. This included the email addresses of the schools' principals, or their personal assistants; as these were later required when the online links to the questionnaires were emailed. Details of the research were explained telephonically to the principal or to another senior school management member. Subsequently emails, containing information about the study, and permission letters were remitted to all the schools. The consent letter was returned by twenty-five of the fifty-five schools, indicating thereby their willingness to participate.

The school leaders, from all fifty-five private secondary schools formed the population in this study. Principals, deputy principals and subject heads were considered, as school leaders in this study. A link to the online questionnaire was emailed to the school principals of the twenty-five participating schools, who then circulated it to the rest of the school leadership team, for completion. A cross-sectional survey was employed. Questions that required quantitative answers from a specified range of options formed the bulk of the questionnaire, but there were a few questions that followed for qualitative responses. The sample of the study was selected by using the quantitative data.

Five of the twenty-five private secondary schools in KwaZulu-Natal were purposely selected. Individual semi-structured interviews were conducted with the principals, deputy principals, who managed academics, and the ICT subject heads. The subject heads of other departments were involved in the focus-group interviews. All the interviews were recorded and transcribed.

The quantitative data from the online questionnaires were analysed by the Statistical Package for the Social Sciences (SPSS v26). Descriptive and inferential statistical analysis were performed. The Chi-square goodness-of-fitness-test and the binomial t-test were employed for the inferential statistical analysis. The qualitative data from the questionnaires were systematised and examined. Thematic analysis was used to identify any patterns, trends, and themes from the data, of both the individual interviews and the focus-group interviews.

Reliability, validity and trustworthiness, as well as ethical protocols, were safeguarded during the research process. Reliability was achieved by the participants in the cross-sectional survey, receiving the same questionnaire to answer, and the participants in the interviews being asked the same open-ended questions in the same order. Validity was attained by ensuring that the selected paradigms, research approaches, research design, data-collection methods, and analytical methods were aligned with the research objectives. Credibility was ensured by the triangulation of the data from multiple data sources, instruments and data-collection methods.

#### **4. Results and Discussion**

School leaders were asked questions regarding the interpretation and enactment of 21 CL in their schools, in the online questionnaire. Similar questions were posed to school leaders during the individual semi-structured and focus-group interviews.

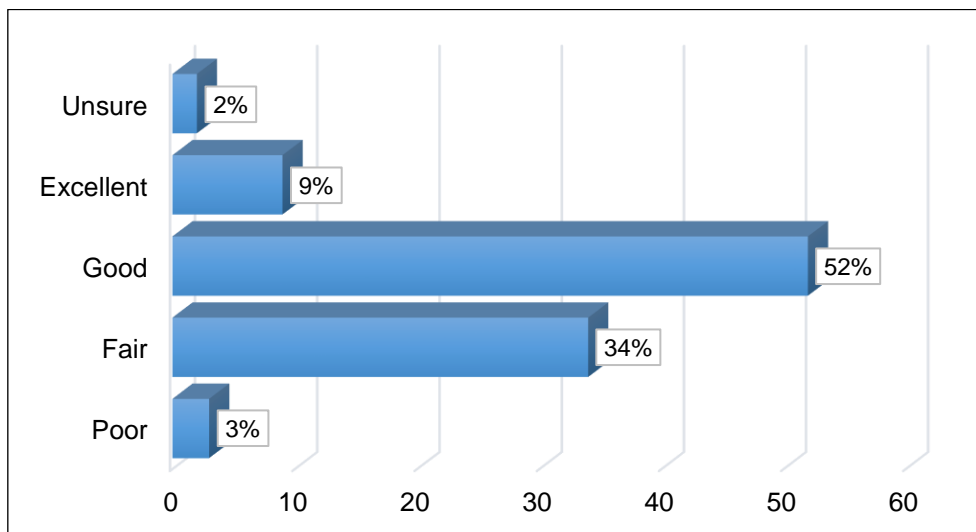
##### **4.1 Response rates and demographic profiles**

The response rate for the schools was 45%; since twenty-five of the identified fifty-five private secondary schools agreed to participate. The response rate for the online questionnaire from the twenty-five participating schools was a 100%. The response rate for the interviews was also 100%. The response rates are high; and this strengthens the validity and trustworthiness of the findings. One hundred school leaders from twenty-five private secondary schools in KwaZulu-Natal answered the questionnaire. Fifteen school leaders participated in the individual interviews and twenty-one school leaders participated in the focus-group interviews.

##### **4.2 Theme 1: School leaders' experience of twenty-first century learning**

Figure 2 below presents the data for the experience of school leaders about 21 CL. A significant 86% of the respondents rated their experience of 21 CL as either 'fair' or 'good'.





**Figure 2: Rating of school leaders' experience of 21 CL**

When triangulated, the qualitative data supported the quantitative results. Some participants' responses indicated a moderate knowledge of the competences involved in 21 CL; whilst others demonstrated a good understanding of them. This is substantiated by the response below.

*"So, I understand it's preparing you for beyond the curriculum; because it forces you into accepting those core critical skills...It's those hidden skills that will prepare you for life after school." (DP2)*

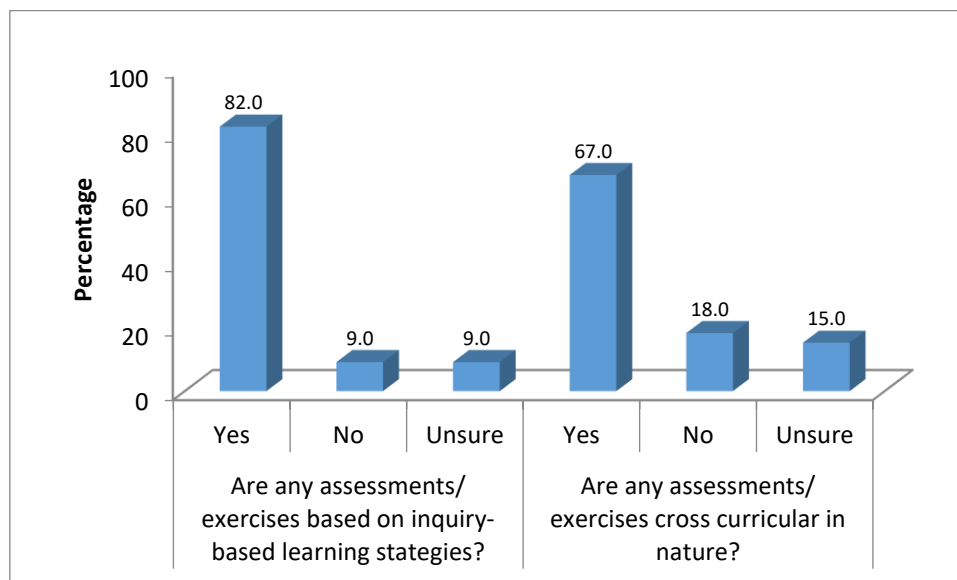
The research findings regarding the understanding of 21 CL competences by school leaders, share many similarities with those described in the literature. These include that 21 CL goes beyond only ICT skills to the necessary life skills (Barrot, 2018). 21 CL also shifts the emphasis from memorisation of content to the application of knowledge, to different real-world situations using credible data (McGuire, 2018). Literature also describes 21 CL as focusing on competencies from both the cognitive and affective domains (Hines & Lynch, 2019).

A significant component of 21 CL is that it is learner-centred with the learner being an active contributor to the entire learning process (Ajmain et al., 2019). This aspect of 21 CL did not feature in the research findings. Another component of 21 CL, which was not evident in the research findings, was that of the scientific method. A further aspect of 21 CL that did not appear in the research findings was that of experiential learning. The research findings revealed that the understanding of 21CL by school leaders, was good in terms of understanding the competences involved, but was also largely limited to this extent. There were no references to its foundational principles, development or structure. The research findings therefore, did not reveal a deeper understanding of 21 CL.

The research findings also did not reveal any urgency, or need to change, from traditional educational practices to 21 CL. Yet, there have been significant global changes, including COVID-19, which have necessitated exigent changes in educational practices (Chirinda et al., 2021).

### 4.3 Theme 2: enquiry-based and cross-curricular school assessments

enquiry-based and cross-curricular assessments are components of 21CL (Hines & Lynch, 2019). Figure 3 shows the percentage of respondents that use school assessments, which are enquiry-based or cross-curricular. A significant 82% indicated that there are enquiry-based learning strategies; while a significant 67% said there are assessments/exercises that are cross-curricular.



**Figure 3: Enquiry-based and cross-curricular school assessments**

The qualitative data revealed that, although enquiry-based and cross-curricular assessments existed at the participating schools, they were not widely used and were in their beginning stages. Their use depended largely on the teacher and the subject. This is evidenced in the response below.

*“Yes, not in every subject area; bu somet subjects do use enquiry-based assessments to do their projects. Its more on an ad hoc basis, it happens (cross-curricular assessments.) but not very frequently. (DP4)*

21 CL is characterised by enquiry-based project work, which is cross-curricular in nature, and it involves the analysis of authentic data from around the world (Hines & Lynch, 2019). The research findings revealed a limited involvement with these teaching and learning strategies. Experimentation with new innovative pedagogical approaches appeared to be a secondary objective, which was left to the discretion of the staff, if time allowed for experimentation. There was no follow through, monitoring or management processes undertaken by school leaders that was evident. This lack of engagement was another indication that the participating schools were beginning their journey of transformation to 21 CL. Limited time by school leaders and teachers to experiment with 21 CL, was also evidenced in the findings. McGuire (2018) affirms that limited time for experimentation does reduce teachers’ involvement with 21 CL.

During the interviews, the participants were asked to elaborate on their experiences of 21 CL, in terms of their school programs. From the responses, only

one of the schools had an official 21 CL program, whilst the other schools had programs, which were aligned with 21 CL. These programs included thinking schools, cross-curricular and research skill programs. These programs were loosely formed official programs or implicit unofficial programs. The term loosely formed refers to official programs, which were not well organised or properly structured.

**Table 1: Different 21 CL aligned programs in schools**

School	Official Programs	Unofficial programs
1	cross-curricular, thinking schools' and research skills	21 CL
2	cross-curricular program, thinking schools' and 21 CL	research skills
3	thinking schools' and research skills	cross-curricular and 21 CL
4	cross-curricular and research skills	thinking schools' and 21 CL
5	None	cross-curricular, thinking schools', research skills and 21 CL

The different 21 CL aligned programs that the five different interviewed schools managed are shown in Table 1 above. All these programs were more focused in the junior grades. These programs were also not taught in separate lessons, but as part of other lessons. These ideas are evidenced in the responses below.

*"We have a small one (cross-curricular program), which happens in grades 8 and 9...Not a big team...Yes down at the bottom end (research skills program), part of media studies...No (21CL program) it's all done from within." (P4)*

Small teams of interested staff managed the official and unofficial programs.

*"There is no real 21 CL team, as such, but we do have champions that lead the process." (ICT3)*

The existence of implicit unofficial and loosely structured formal 21 CL programs, revealed that the participating schools have begun their journey to 21 CL, but were still in the early stages of the transformation. This again is evident by these programs being focused more in the junior grades, not being timetabled, as separate lessons, but being taught concurrently with other subjects, and managed by small groups of interested teachers, rather than designated, trained teams. McDonald (2017) explains that some countries that began experimenting have already completely changed their entire educational systems to 21 CL.

The Curriculum and Assessment Policy Statement (CAPS) and the Independent Education Board (IEB) educational systems within South Africa, as well as many other educational systems globally, are still busy with assessment and are still being driven (Moyo & Hadebe, 2018). Teachers, therefore, tend to remain with the traditional teaching methods like content-based, repetition learning, which have

yielded good results previously (Lay & Osman, 2018). This is evidenced in the research findings which showed that 21 CL aligned programs occurred mostly in the junior grades, and was a second priority, to teaching learners the content from the prescribed curriculum. Teachers are also wary to experiment with 21 CL; since it is a new educational paradigm; and it has relatively limited evidence of its effectiveness (Mandla, 2021). The implicit unofficial and official loosely structured 21 CL aligned programs with non-designated teams could also be the product of teachers being over-worked, and not having sufficient time to engage with innovative teaching methods (Claro et al., 2018)

It is evident from the data that the participating schools have enacted 21 CL as secondary, compartmentalised programs within the larger academic programs. Contrary to this approach, schools which have been successful in changing to 21 CL have adopted a comprehensive and holistic adoption of the paradigm (Ajmain et al., 2019). Furthermore, countries that have had success with the interpretation and enactment of 21 CL in schools, have invested time and resources to train their teachers (Nouri et al., 2019).

#### 4.4 Theme 3: Incorporation of twenty-first century competences in teaching

Figure 4 show how school leaders formally incorporate 21<sup>st</sup> century competences into their lesson plans. A significant number of respondents indicated that they incorporate a wide variety of 21<sup>st</sup> century competences. The results of a separate chi-square goodness-of-fit test revealed that a significant 73% of school leaders indicated that they, or other teachers, formally incorporate 21<sup>st</sup> century competences into their teaching.

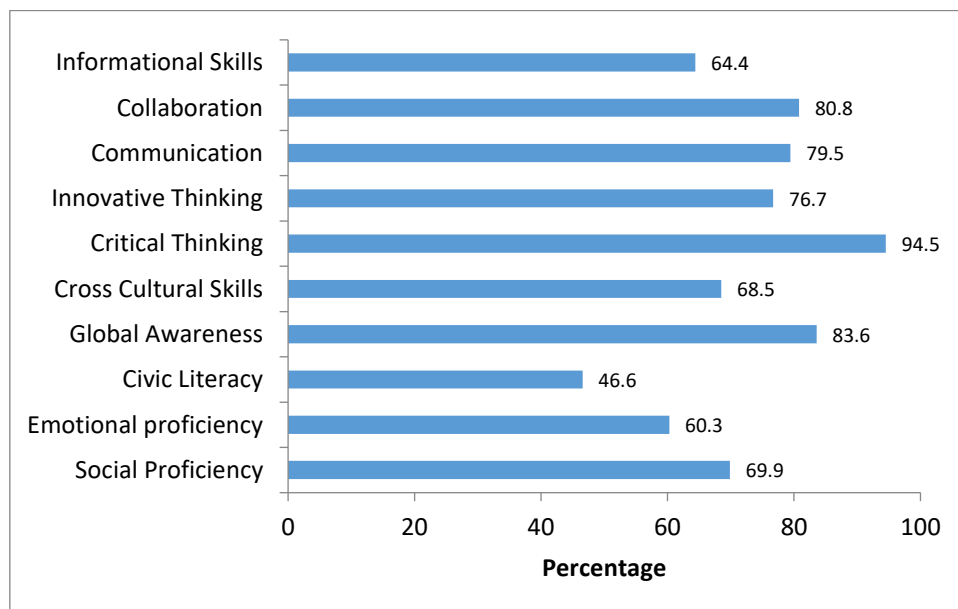
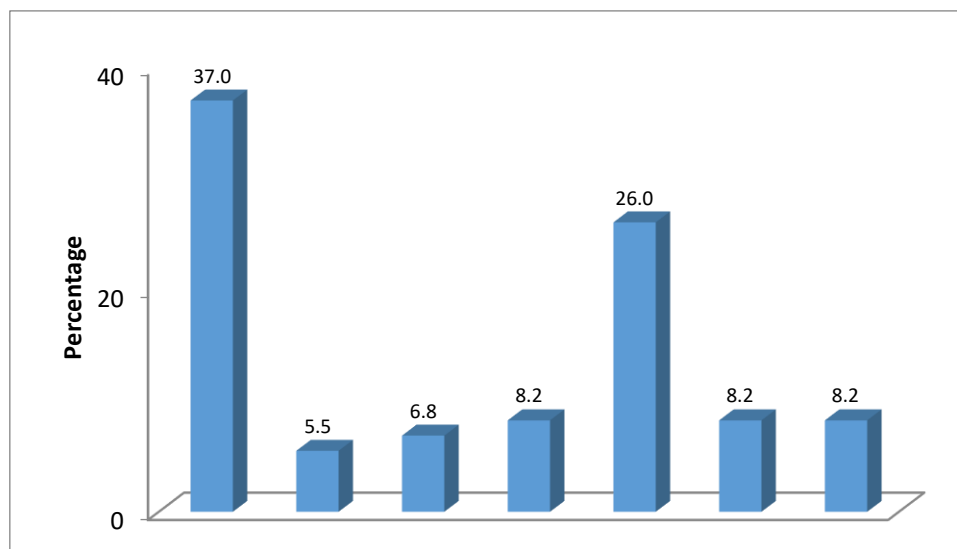


Figure 4: Incorporation of 21<sup>st</sup> century competences in teaching

Figure 5 presents the grades in which school leaders formally incorporated 21<sup>st</sup> century competences. 37% of school leaders incorporated 21<sup>st</sup> century competences in grade eight and 26% in grade 12. The results of a separate chi-

square goodness-of-fit test revealed that a significant 46% indicated that they incorporated 21<sup>st</sup> century competences in grade eight and grade twelve.



**Figure 5: Grades in which 21<sup>st</sup>-century competences are incorporated**

These results differed from the qualitative results, which showed that 21 CL-aligned programs were more focused on the junior grades, rather than on grade twelve.

Finally, the quantitative data revealed that 23% of school leaders were unsure of the percentage of staff that actively use 21 CL competences in their teaching; and a significant 44% indicated that the percentage of staff who actively use 21 CL in their teaching practice is more than 40%, but less than 100%.

Table 2 presents the data collected regarding different methods in which school leaders incorporate 21<sup>st</sup> century competences, in their teaching.

**Table 2: Methods in which 21<sup>st</sup>-century competences are incorporated in teaching**

Methods of incorporation of 21 <sup>st</sup> century competences in teaching	Percentage
Emphasising 21 <sup>st</sup> century competences in the teaching of subject matter	34%
Use of objective questions, discussions, research essays, debates and presentations, projects, assignments and experiments	32%
Teaching learners specifically about 21 <sup>st</sup> century competencies	18%
Cross curricular learning	16%
Learners working with partners or in groups	14%
Use of ICT	9%
Testing 21 <sup>st</sup> century competencies in formal assessments	7%

Teachers familiarising themselves with international trends in education	4%
Leadership programs for learners	4%
Use of real-world problems and data analysis	4%
Alignment and assimilation	2%
Thinking maps	2%
Use of the flipped classroom concept	2%
Outreach projects	2%

The participant responses in the individual and focus=group interviews revealed that most school leaders and teachers, taught 21 CL competences informally, which contrasted with the quantitative results. Possible explanations for this incongruity, are that participants were more willing to be honest in a face-to-face settings, or that the participants better understood the questions, after interacting with the researcher. The participant responses in the interviews also revealed that the teaching of 21 CL competences was done passively, rather than actively. The responses showed that school leaders and teachers did not include 21 CL competences overtly in their lesson plans, work schedules or teaching methods.

There were also no compulsory directives from the school to include 21 CL competences in the teacher's planning. The 21 CL competences, which featured prominently in the quantitative data, were also mentioned in the responses. This is evidenced in the responses below.

*"Informally to a higher extent, but formally about ten per cent, there is not a requirement that says in your lesson plans you have to include say twenty percent of this...But we know it happens... to a greater or lesser extent depending on the individual." (P4)*

One of the reasons for the poor formal use of 21 CL competences by school leaders and staff, was that some staff members were resistant to change.

*"They informally incorporate it (21 CL competencies) ... Formally, I don't think they (the staff) are actively engaged...There are some traditional, old-fashioned teachers though who refuse to change." (DP2)*

The qualitative results indicated the informal, passive, and unstructured use of 21 CL competences in the participating schools. In reviewing all the research findings, it becomes evident that the private secondary schools in KwaZulu-Natal are beginning their journey of transformation to 21 CL. They have initiated 21 CL practices and platforms; but there is still no structure, co-ordination and effective management of these endeavours.

Cheng (2017) avows that there is extensive information about interpreting and enacting 21 CL in schools; as many countries have embarked on this transformation, decades ago. The research findings indicate that the participating schools, are either not aware of this research, or have chosen not to use it. Yet, one of the key elements in the successful transformation process to 21 CL has been the development of strong partnerships between professional teaching practice and informative research, where one mutually informs the other (Bai & Song, 2018).

Heinrich and Kupers (2018) also assert that 21 CL can be facilitated by well-developed policies and plans. These were not evident in the approaches of the participating schools to 21 CL.

#### 4.5 Theme 4: Courses on twenty-first century learning and related fields attended by school leaders.

Figure 6 presents the data obtained from school leaders about their attendance of course/seminars/workshops on 21 CL, cross-curricular studies, thinking schools, or enquiry-based learning. Although 49% of school leaders indicated that they attended training on thinking schools and 43% on 21 CL, the results of a separate chi-square goodness-of-fit test revealed that none of these courses were attended by a significant number of the sample.

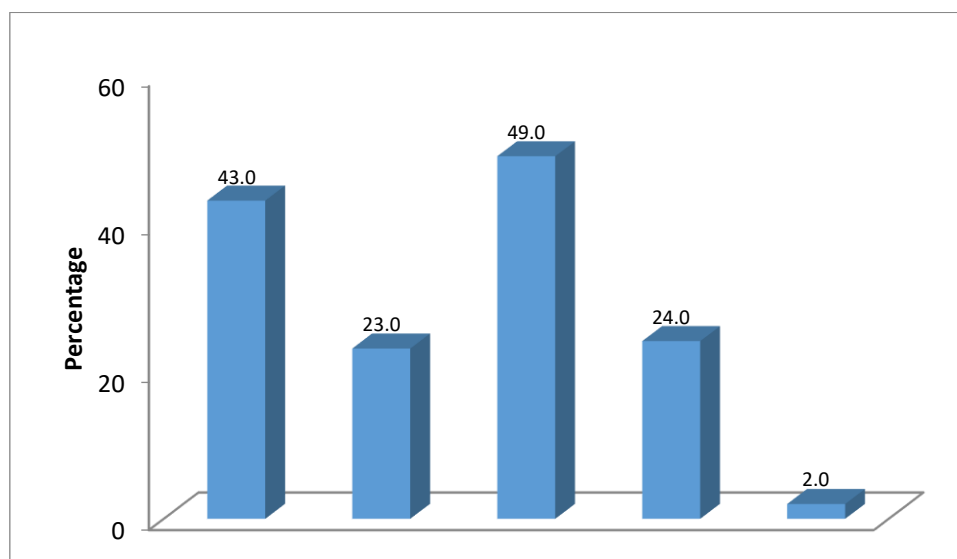
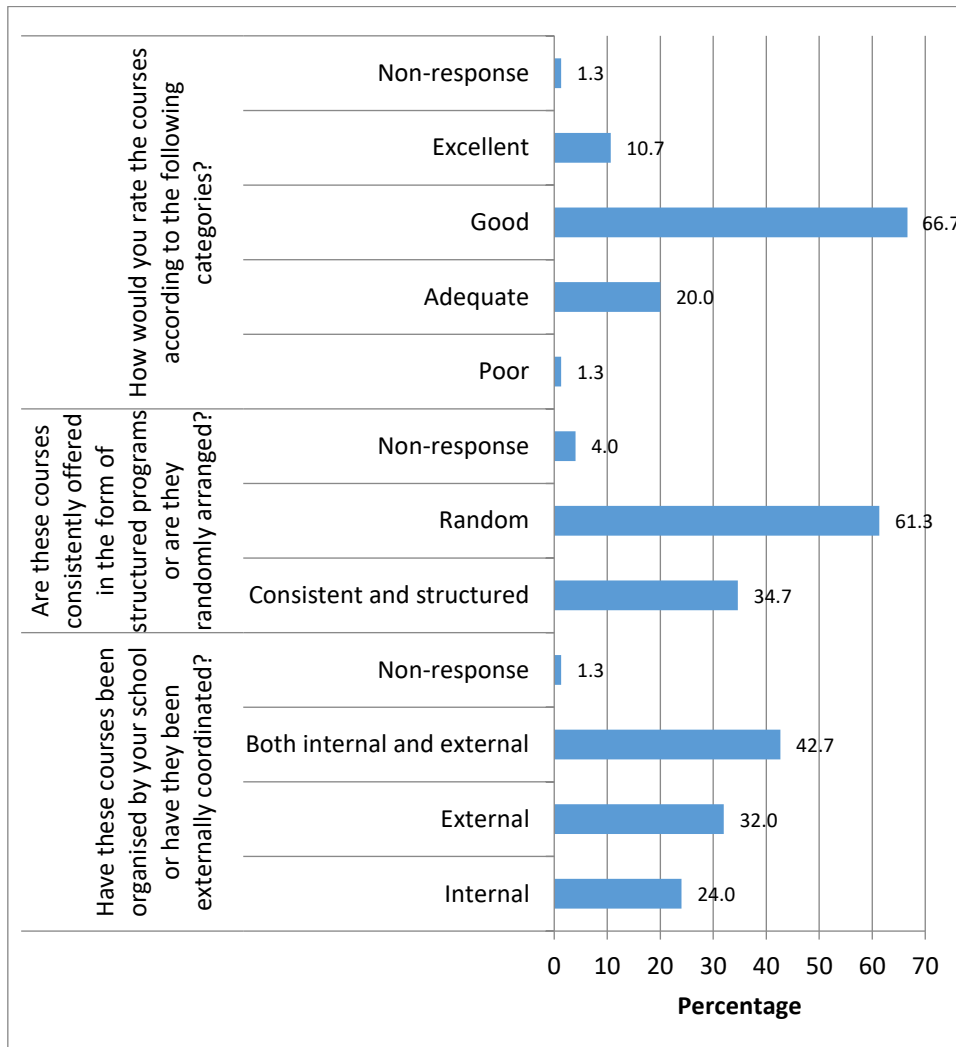


Figure 6: Courses on 21 CL and related fields attended by school leaders.

The qualitative data affirmed the quantitative results. The responses of the participants showed that school leaders did not attend courses, specifically referred to as 21 CL courses/training, but they did attend courses focused on 21<sup>st</sup> century competences, cross-curricular learning, thinking schools, and enquiry-based learning. These courses were both internally conducted by the school and externally conducted by educational institutions, affiliated with the school. The similar qualitative results are affirmed by the responses below.

*"No (attendance of specific 21 CL courses) but we did do a course on education and sustainability which was very much around 21 CL. It had many projects... I am sure we did one on cross-curricular studies as well."  
(FG1A)*

Figure 7 presents further data about courses on 21 CL and related fields attended by respondents. The results of a separate chi-square goodness-of-fit test revealed that a significant 74.7% of these courses were arranged externally only, or both externally and internally.



**Figure 7: Data on courses on 21 CL and related fields attended by school leaders.**

The quantitative results also showed a significant 61.3% of the 21 CL-aligned courses were randomly arranged, and a significant 66.7% were rated as 'good'. The interview responses also indicated that most of the courses were randomly organised and were effective. This is evidenced by the response below.

*"Lots of 21<sup>st</sup>-century competences stuff... No cross-curricular studies... Thinking schools: we do a lot here... I haven't ever been to enquiry-based learning seminars or anything... externally organised... it's random... they have been very effective." (P1)*

The data depicted in Table 3 suggest ways that the courses could be improved.



Table 3: Feedback on 21 CL courses

Maintain		Improve	
Good instructors	6%	Time off to attend	6%
Good structure and content	8%	Consistency of courses	9%
Maintain new courses	6%	Refresher/follow-up courses needed	20%
		Affordability	14%
		More regularly offered	16%
		More courses offered	8%
		More subject-specific	6%
		Lack of structure	4%
		Assistance in implementation and practical application	12%

The qualitative data from the online questionnaire regarding the improvement of 21 CL training was aligned with the qualitative data from the interviews. This is evidenced in the responses below.

*"We went to habits of mind and thinking maps... Initially external then we chose the thinking maps and they came to us... not very consistent (courses/training) ... More practical methods need to be included."*  
(FG3E)

The findings indicate that the participating schools have initiated training and development of 21 CL, for school leaders; but this training was still in the beginning stages, insufficient, random and not incremental. The school leaders regarded the training that they did receive, as effective. However, this could be because it provided them with the basic knowledge of 21 CL, which increased their confidence.

Patrick et al. (2021) indicated that teacher training is a necessary component of 21 C; and it is often arranged externally and internally. Countries and schools that have successfully changed to 21 CL have avoided random and inconsistent courses; but they have rather strategically invested time and resources in upskilling their school leaders and teachers (Maphosa, 2021). This training and development should be practical, appropriate, well-structured, consistent, and effective (Landa et al., 2021).

## 5. Conclusions and recommendations

The research findings revealed that private secondary schools were only beginning to engage with 21 CL. School leaders did have some knowledge and experience of 21<sup>st</sup> century competences; but they lacked an in-depth knowledge of 21 CL. 21 CL aligned programs were focused more in the junior grades, and not well organised or managed effectively. The use of enquiry-based or cross-curricular assessments was limited and 21 CL was considered more of a secondary concern in relation to the primary official curriculum Assessments were still content-based; and teaching practices were traditional. 21 CL was not taught in

separate time-tabled lessons, but concurrently in other lessons. Finally, the 21 CL training that was provided was not adequate, consistent but too theoretical.

To ensure the successful adoption of 21 CL by all stakeholders within the school, schools should professionally develop their school leaders and other stakeholders, in 21 CL. This can be achieved by hosting training sessions in which the theory of 21 CL is explained in detail. The training that is provided should be planned according to a vision, be incremental and be practical. To facilitate the transformation to 21 CL, schools should also adopt a more long-term, sustainable view of education, and create a better balance between present realities and future necessities. Schools can engage in more teaching practice, assessments and curricula that are 21 CL aligned, whilst still engaging with the present curriculum.

These must be strategically planned with well-defined outcomes.

In addition, schools should therefore, timetable official lessons for 21 CL aligned programs across all the grades and have well-defined teams to manage them. These teams should be professionally developed in leading 21 CL-aligned programs. To endure the success of these programs, schools should again provide for the following: sufficient time to experiment with innovations, engage in more enquiry-based and cross-curricular assessments, and have more touch-base sessions, to relieve any apprehensions about the change.

The planned teaching of 21<sup>st</sup> century competences is pivotal to the success of 21 CL. After allocating timetabled 21 CL lessons, schools should utilise an official 21 CL curriculum, which can be taught concurrently with the existing curricula. School leaders should request teachers to officially develop content, lesson plans and work schedules, which reflect 21 CL. Assessment methods and monitoring mechanisms should be incorporated in the execution of the plans. Relationships between schools and tertiary institutions, where there is an exchange of theoretical and practical information, have facilitated 21 CL. Schools should approach tertiary educational institutions to establish partnerships with them. In this way, schools can become research centres, where 21 CL can be practised, and the practice can then inform the theory developed by tertiary institutions.

Finally, it is recommended that private secondary schools in KwaZulu-Natal incorporate the different components of 21 CL, represented in Figure 1 (p6), into their 21 CL programs, in order to ensure maximum implementation and sustainable success rates.

Further research could be conducted into how South African private primary schools interpret and apply 21 CL. It is also recommended that research be conducted into how other provinces have interpreted and applied 21 CL in their schools. Research could also be conducted into how public schools engage with 21 CL, especially ex-model C schools; since they have been historically better resourced than other public type schools. Another interesting area of future research would be to investigate and probe the impact of COVID-19, on both public and private schools, as they have been forced more into the online and 21 CL learning space.

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## Appendix 1

### QUESTIONNAIRE

#### Biographical Information of the Participant

1. Which age group do you belong to?

20 - 25 years	26 - 30 years	31 - 35 years	36 - 40 years
41 - 45 years	46 - 50 years	51 -55 years	56 years or older

2. Which gender are you?

Male	Female
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3. What is your current teaching position? More than one option may be chosen.

Teacher	Subject Head	Deputy Principal	Principal
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4. In which of the following subject departments do you teach in?

English	Physical Science	Mathematics	Business Studies	Drama
Afrikaans	Life Science	Engineering Graphics and Design	Music/Dance	Geography
IsiZulu	Information Technology	Accounting	Art	History

Other or None? Please specify:

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5. How many total years of experience do you have in secondary school education throughout your entire career?

0 - 5 years	6 - 10 years	11 - 15 years	16 - 20 years
21 - 25 years	26 - 30 years	31 - 35 years	36 years or more

6. What is your highest tertiary qualification?

Diploma	Degree	Honours degree
Master's Degree	PhD/Doctorate	

**Objective: To determine the experiences (understanding and practice) of school leaders about the interpretation and enactment of 21<sup>st</sup> Century Learning in their respective schools.**

1 How would you rate your knowledge/experience of 21<sup>st</sup> Century Learning according to the following categories?

UNSURE	POOR	FAIR	GOOD	EXCELLENT
--------	------	------	------	-----------

2 Does your school have an official cross-curricular program? Cross-curricular programs allow learners to study topics across disciplines/subjects.

UNSURE	YES	NO
--------	-----	----

3 If so, does your school have a cross-curricular team to manage the program?

YES	NO	N/A
-----	----	-----

4 Does your school have an official thinking school program? Thinking school programs are affiliated with the Thinking Schools South Africa agency.

UNSURE	YES	NO
--------	-----	----

5 If so, does your school have a thinking school team to manage the program?

YES	NO	N/A
-----	----	-----

6 Does your school have an official research-skills program? Research skills programs that specifically teach learners how to undertake research.

UNSURE	YES	NO
--------	-----	----

7 If so, does your school have a research-skills team to manage the program?

YES	NO	N/A
-----	----	-----

8 Does your school have an official 21<sup>st</sup> Century Learning program? 21<sup>st</sup> Century Learning programs that specifically teach learners about 21<sup>st</sup>-century competences?

UNSURE	YES	NO
--------	-----	----

9 If so, does your school have a 21<sup>st</sup>-Century Learning team to manage the program?

YES	NO	N/A
-----	----	-----

10 Are any of the assessments/exercises at your school or in your subject enquiry-based learning strategies? Enquiry-based learning is learner-centred; it involves research and occurs in a community of learning.

UNSURE	YES	NO
--------	-----	----

11 Are any of the assessments/exercises at your school cross-curricular in nature?

UNSURE	YES	NO
--------	-----	----

12 Do you, or to the best of your knowledge, do the teachers at your school formally incorporate 21<sup>st</sup>-Century Learning competences in their teaching? The word formally indicates the inclusion of 21<sup>st</sup>-Century Learning as part of the lesson preparation.

UNSURE	YES	NO
--------	-----	----

13 If so, which of the following 21<sup>st</sup>-Century Learning competences do you, or to your knowledge, do the teachers at your school formally incorporate in their teaching?

SOCIAL PROFICIENCY	EMOTIONAL PROFICIENCY	CIVIC LITERACY	GLOBAL AWARENESS	CROSS CULTURAL SKILLS
CRITICAL THINKING	INNOVATIVE THINKING	COMMUNICATION	COLLABORATION	INFORMATION SKILLS



Other? Please specify:

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14 If so, in which of the following grades do you, or to the best of your knowledge other teachers at your school incorporate these 21<sup>st</sup>-Century Learning competences?

UNSURE	8	9	10	11	12	N/A
--------	---	---	----	----	----	-----

15 Are there any grades, if any that you, or to the best of your knowledge other teachers at your school tend to focus on, when utilising 21<sup>st</sup>-Century Learning principles? More than one option may be selected.

UNSURE	8	9	10	11	12	N/A
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16 If you do incorporate 21<sup>st</sup>-Century Learning competences in your teaching, please briefly elaborate on how you utilise these competences in your teaching.

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17 In your opinion, what percentage of teachers on your staff actively use 21<sup>st</sup>-Century Learning in their teaching practice?

< 20	20	40	60	80	100	UNSURE
------	----	----	----	----	-----	--------

18 Have you attended any courses, seminars or programs, which focused on the following?

21 <sup>st</sup> CENTURY EDUCATI ON	CROSS- CURRICUL AR STUDIES	THINKING SCHOO LS	ENQUIRY- BASED LEARNI NG
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Other? Please specify:

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19 If so, have these courses been organised by your school, or have they been externally co-ordinated?

INTERNAL	EXTERNAL	N/A
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20 Are these courses consistently offered in the form of structured programs, or are they randomly arranged?

CONSISTENT AND STRUCTURED	RANDOM	N/A
------------------------------	--------	-----

21 How would you rate the courses according to the following categories?

POOR	ADEQUATE	GOOD	EXCELLENT	N/A
------	----------	------	-----------	-----

22 If you have answered YES to question 2.18, what should be maintained about the courses and what should be improved?

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**THE END - THANK YOU**

## **SCHEDULE OF INTERVIEW QUESTIONS FOR SEMI-STRUCTURED INTERVIEWS**

### **Interview Questions**

#### **1. Biographical Information of the Participant**

1.1 Present position:

1.2 Years of experience in the teaching profession including various positions held:

**Objective: To determine the experiences (understanding and practice) of school leaders about the interpretation and enactment of 21<sup>st</sup>-Century Learning in their respective schools.**

1 What is your understanding of 21<sup>st</sup> Century Learning? Please elaborate.

2 Does your school have an official cross curricular programme? Please elaborate.

3 If so, does your school have a cross-curricular team to manage the program? Please elaborate.

4 Does your school have an official thinking-school program? Please elaborate.

5 If so, does your school have a thinking-school team to manage the program? Please elaborate.

6 Does your school have an official research-skills program? Please elaborate.

7 If so, does your school have a research-skills team to manage the program? Please elaborate.

8 Does your school have an official 21<sup>st</sup>-Century Learning program? Please elaborate.

9 If so, does your school have a 21<sup>st</sup>-Century Learning team to manage the

program? Please elaborate.

10 Are any of the assessments/exercises at your school based on enquiry-based learning strategies? Please elaborate.

11 Are any of the assessments/exercises at your school cross-curricular in nature? Please elaborate.

12 To what extent, if any, do you, or to the best of your knowledge, other teachers at your school formally incorporate 21<sup>st</sup>-Century Learning competences in their teaching? Please elaborate. (Social proficiency, emotional proficiency, civic literacy, global awareness, cross-cultural skills, critical thinking, innovative thinking, communication, collaboration, information skills)

13 Is your entire staff actively engaged with 21<sup>st</sup> Century Learning? Please elaborate?

14 Have you attended any courses, seminars or programs, which focused on the 21<sup>st</sup>-Century Learning, cross-curricular studies, thinking schools or enquiry-based learning? Please elaborate. (internal/external; consistent/random; effective/ineffective; suggestions)

## THE END

### SCHEDULE OF INTERVIEW QUESTIONS FOR FOCUS-GROUP INTERVIEWS

**Objective: To determine the experiences (understanding and practice) of school leaders about the interpretation and enactment of 21<sup>st</sup>-Century Learning in their respective schools.**

1 What is your understanding of 21<sup>st</sup>-Century Learning? Please elaborate.

2 Does your school have an official cross-curricular program? Please elaborate.

3 If so, does your school have a cross-curricular team to manage the program? Please elaborate.

4 Does your school have an official thinking-school program? Please elaborate.

5 If so, does your school have a thinking-school team to manage the program? Please elaborate.

6 Does your school have an official research skills programme? Please elaborate.

7 If so, does your school have a research-skill team to manage the program? Please elaborate.

8 Does your school have an official 21<sup>st</sup>-Century Learning program? Please elaborate.

9 If so, does your school have a 21<sup>st</sup>-Century Learning team to manage the program? Please elaborate.

10 Are any of the assessments/exercises at your school based on enquiry-based learning strategies? Please elaborate.

11 Are any of the assessments/exercises at your school cross-curricular in nature? Please elaborate.

12 To what extent, if any, do you, or to the best of your knowledge, other teachers at your school formally incorporate 21<sup>st</sup> Century Learning competences in their teaching? Please elaborate. (Social proficiency, emotional proficiency, civic literacy, global awareness, cross-cultural skills, critical thinking, innovative thinking, communication, collaboration, information skills)

13 Is your entire staff actively engaged with 21<sup>st</sup>-Century Learning? Please elaborate?

14 Have you attended any courses, seminars or programs, which focused on the 21<sup>st</sup>-Century Learning, cross-curricular studies, thinking schools or enquiry-based learning? Please elaborate. (internal/external; consistent/random; effective/ineffective; suggestions)

## THE END

### TRANSCRIPT - SCHOOL FIVE - SCHOOL HEAD

Interviewer -Perfect. Okay.

Interviewer -Good Afternoon Sir. Thank you for accommodating me and the interview process.

Interviewer-Ah, as I mentioned, it's totally anonymous and the information is kept absolutely confidential. It's purely for research purposes.

Interviewer -Yah, so a little bit about your present position and your years of experience in the teaching profession?

Interviewee -Sir, I am currently the rector

Interviewer -Yes.

Interviewee -I have been teaching for 34 years.

Interviewer -Long time [Laugh]

Interviewee -It is, it is.

Interviewer -Okay, right?

Interviewer -Moving on to the 2nd major objective, which is 21<sup>st</sup>-Century Education.

Interviewee -Uhu.

Interviewer -A lot of people have different views on it.

Interviewee -[Laugh]

Interviewer -[Laugh], what is it exactly?

Interviewee -Here it is a coffee. I can hear and I can talk about It.

Interviewer -Absolutely \_ please multi-task. [Laugh]

Interviewee -[Laugh]

Interviewer -Yah, what is your understanding of 21<sup>st</sup>-Century Education? Please elaborate.

Interviewee -I think it's the development of skills.

Interviewer -Yah.

Interviewee -That allow people to survive on this planet, strive on this planet. Given all the challenges that we [Rephrase], our pupils, in fact the current generation pupils are going to face.

Interviewer -Yes.

Interviewee -In terms of environmental degradation. In terms of the lack of ecosystem support, the provision of food, water, clean air.

Interviewer -Yes! Yes, yes.

Interviewee -Those are the most important items ah, 21<sup>st</sup>-Century Education is Also going to be developing new technologies ,which might not be purely economically related.

Interviewer -Uhh.

Interviewee -to actually allow for survival.

Interviewer -Yah, yah, excellent, excellent, yah.

Interviewer -I had quite a lengthy discussion with your DP; and he went on to

say that your first step with 21<sup>st</sup>- Century Education was actually sitting together as a group and trying to define it, which is great.

Interviewee –and it's not easy.

Interviewer –It's not easy, no, no.

Interviewer –Okay. Does your school have an official Cross-curricular Program? Please elaborate.

Interviewee –We have a small one.

Interviewer –Yah.

Interviewee –[Clears throat], which happens in Grade 8 and 9 years for a short End; but other than that, there is no strong one.

Interviewer –No strong one, yah.

Interviewee –Except that the whole Curriculum, which encompasses outdoor, encompasses visiting speakers and that. If you tag everything that happens ah, we do have a bit more than that to the Grade 8 and 9 Programme.

Interviewer –Okay.

Interviewee – So [0:07:47.6]

Interviewer –Okay, with speakers coming in

Interviewee –Yah, yah.

Interviewer The questions are a bit related;

So, if we cover them then, we can just move along.

Interviewee –It's fine.

Interviewer –If so, does your school have a Cross-Curricular Team to manage the Program?

Interviewee –Yah, those short ones, those short ones.

Interviewer –Okay. I know from the other interviews that there are a few Grade 8 and 9 Teachers also in charge of that Cross-Curricular Program.

Interviewee –Yah.

Interviewer –Does your school have an official Thinking-school Program? Please elaborate. Ah and this means are you affiliated with Thinking Schools SA?

Interviewee –I don't think we are.

Interviewer –Okay.

Interviewee –We do run the Thinking Schools Course in Grade 10

Interviewer –Yes.

Interviewer –ah, and then It's the IEB critical reading and thinking.

Interviewer –Correct, yes in Grade 10.

Interviewee –Yah.

Interviewer –Thank you.

Interviewer –if so, does your school have a Thinking-School Team to manage the program?

Interviewee –No .It's Just [Allan Coffee] who does the Head of Academics and the teachers who drive it.

Interviewer –Yah, that is it.

Interviewee –Not a big team.

Interviewer –Not a big team. Thank you.

Interviewer –Does your school have an official research-skills program?

Interviewee –Yes .Down at the bottom end.

Interviewer –Yes.

Interviewee -Part of the Media Studies.

Interviewer -That come through, yes.

Interviewee -and they did it at the beginning of this year. Actually, there was, they did

the whole integrated [0:09:08.7] Program Grade 8, which was largely about research skills.

Interviewer -Okay.

Interviewee -I was hoping to be more ambitious; but it turns out that the logistics were quite complicated; so it was only about tendering program.

Interviewer -Yes.

Interviewee -I wonder if it's going to happen next year; you must ask [0:09:24.0]

Interviewer -Okay, yah. Time [Rephrase]. School environment time is always hectic.

Interviewer -ah, If so, does your school have a Research-Skills Team to manage the program?

Interviewee -Yah, yah, we did.

Interviewer -Okay.

Interviewer -Does your school have an Official 21<sup>st</sup>-Century Education Program?

Interviewee -No.

Interviewer -Okay.

Interviewee -All done within.

Interviewer -Within [Laughs], Okay.

Interviewer -and so [Interviewer was cut off by Interviewee]

Interviewee -and that happens because we actually don't believe in the value of separate (solo), separate activities and being separate. We have already got solo subjects.

Interviewer -Yes.

Interviewee -If we know then separate Character Education and another It would happen in Character Education classes only.

Interviewer -Yes.

Interviewee -So, I think for the 20<sup>th</sup>-Century skills, character education is probably our vehicle.

Interviewer -Right.

Interviewee -because a lot of those skills are all about interacting with each other, integrity, courage, humility, service.

Interviewer -Yah.

Interviewee -These we believe, are the essential skills

Interviewee -[These are those that we are treating]

Interviewee -for getting out there and surviving.

Interviewer -and that photos to the distant subjects.

Interviewee-[0:10:30.0] school.

Interviewer -[0:10:31.3] permits, okay, nice.

Interviewee -it does and ah, we will pretty soon permanently place posters around the place. Mrs Logan has placed little stickers in books and inside lockers.

Interviewer -Yes.

Interviewee -But we also started using Language and current education in our reporting. So.

Interviewer –Nice, yes.

Interviewee –when you start talking about integrity and courage and great

Interviewers –Yes.

Interviewee – and gratitude in the way we view boys by how you report on them, then it becomes integrated into the life of the school.

Interviewer –Yes, I like that reporting aspect in it.

Interviewer –Ah, if so, does your school have a 21<sup>st</sup>-Century Education Team to manage the program?

Interviewee –Well, our Character Education Team, yah.

Interviewer – The Character Education Team?

Interviewee –Quite a big one.

Interviewer –Okay.

Interviewer –Are any of the Assessments / Exercises at your school based on Enquiry-Based Learning Strategies?

Interviewee –only those Cross-Curricular ones.

Interviewer –Yah.

Interviewee –and then we add assessment within quarterly assessments, so there wouldn't be a whole term basis, you know dedicated to it or a complete [0:11:37.7] based on it. There will be aspects of it within a quarter

Interviewer –Uhm.

Interviewee –A term mark or a year mark.

Interviewer –Okay.

Interviewee –and then we will largely be the classroom-based assessment from within the formal

Interview–and the formal

Interviewer –Exam-based assessment, yah.

Interviewer –Please Sir, feel free to add in ah, anything that you need to add.

Interviewer –To what an extent, if any, do you, or to the best of your knowledge, do other

teachers at your school formally incorporate 21<sup>st</sup>-Century Education competences in their teaching?

Interviewer –Ah, Social Proficiency, Emotional Proficiency, Civic Literacy, Global Awareness, Cross-Cultural Skills, Critical Thinking, Communication, Collaboration.

Interviewee –Do you want the results in the form of percentages?

Interviewer –Ah, ah, your view.

Interviewee –To what extent?

Interviewer –To what [Laugh], yah.

Interviewee –I would say informally and only a few.

Interviewer –Yes! Yes, yes.

Interviewee –to higher extent but formally, probably about 10%.

Interviewer –Okay, alright. Yah.

Interviewee –There is not a focused title or requirement that says in your lesson Plans that you have to include 20% of this. We don't have it at all. But we know that this happens.

Interviewer –It happens, that happens.

Interviewee –But we know that Character Education also happens.

Interviewer –Yes.

Interviewee -But until recently, we hadn't formalised this finally [0:12:55.4]

Interviewer -Right, right.

Interviewee -or assessed it thoroughly.

Interviewer -Assessed it hard, perfect. Perfect.

Interviewer -Yah, that's the current theme through many of the schools. It's definitely happening but it's not, it's not quite intentional or quite directed; but it is happening. And I think that's why I wanted those interviewers; because it doesn't come out on those questionnaires.

Interviewer -Have you, ah. [Rephrase]. Is your Staff actively engaged with the 21st

Century? Sorry just linked to the previous.

Interviewee -I would say so, Yah.

Interviewer -Okay.

Interviewee -To a greater or to a lesser degree, depending on the individual, but yah, I I

think they are. They understand where we are at, even though it's not

Interviewed -Yes, yes.

Interviewee -perfectly expressed.

Interviewer -Okay.

Interviewee -Have you attended any courses, seminars or Programs, which focused on 21<sup>st</sup> Century Education?

Interviewee -Not to that title.

Interviewer -Okay.

Interviewer -Cross-Curricular [Interviewer was cut off by Interviewee]

Interviewee -But I have done courses on Character Education.

Interviewer -Oh, okay.

Interviewee -But online courses?

Interviewer -I am glad you mentioned this.

Interviewer -Cross-Curricular Studies?

Interviewee -yah, we have; because you know [Graig Lewitt's ] Course, Seminars would have covered that.

Interviewer -Yah.

Interviewer -They are very informative Seminars.

Interviewer -Thinking Schools?

Interviewee -We did have one with one of them.

Interviewer -Yah.

Interviewee -But not formally; so no, I can't say yes for the scrap period of time, a scrap frame of your study would suffice .

Interviewer -[Laugh], Okay.

Interviewer - and Enquiry-Based Learning?

Interviewee -Ah, not the whole Staff, no.

Interviewer -Not the whole Staff?

Interviewee -I am sorry you had to wait so long.

Interviewer -No problem.

Interviewee -Long day though, Sir.

Interviewer -Laugh.

Interviewer -Yes.

Interview ends:[ 0:19:52.5]