THE FACTORS OF DIRECT INFLUENCE ON THE 21ST CENTURY INSTRUCTIONAL COMPETENCIES OF SECONDARY SCHOOL TEACHERS IN THE CATHOLIC DIOCESE OF CHENNAI, INDIA

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Abstract: The purpose of this research was to determine the direct factors to enhance the 21st-century instructional competencies of secondary school teachers. Factors of direct influence are herein defined as events, decisions, or situations that influence teaching and learning. The research objectives focused on: (1) finding the ideal 21st-century instructional competencies and the factors that influence those competencies, (2) developing a survey instrument for the assessment of the factors influencing 21st-century instructional competencies of school teachers in southern India, and (3) finding the relationships that exist between the factors influencing 21st-century instructional competencies of secondary school. A simple random sampling of books and journals published between 1999 and 2020 on instructional competencies provided the data for the qualitative content analysis. A survey instrument was constructed using the findings. For the third objective, data collection was done using the survey instrument and then analyzed using advanced statistical methods. The analysis found a Pearson's Coefficient (r) of .641, with a p-value of .000, indicating a strong positive relationship between the 21st-century instructional competencies (TFCIC) and the factors identified. The findings of this study showed that there were seven statistically significant factors that predict the 21st-century instructional competencies, $F(7, 411) = 49.768$, $p < .001$, proving that the regression model was a good fit for the data provided. The regression analysis determined the direct factors influencing 21st-century instructional competencies of secondary school teachers, as identified as *student-centered approaches, use of information technology, school policies of teaching and learning* statistically significant at $p<.001$, and *student participation* statistically significant at $p<.05$. This study proposes recommendations for best

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instructional practices of secondary school teachers that are suited for 21st-century education.

Keywords: 21st-century framework, 21st instructional competencies, and Factors of direct influence.

Introduction

Globalization and rapid changes in technology have created new opportunities for schools to be updated in curriculum and learning environments to prepare students for a world of new challenges and opportunities. However, there can be a gap between the future needs and the time it takes to redesign and implement a curriculum (OECD, 2020) the change process envisaged. Due to demands from a changing environment with new and advanced technologies, industries will certainly shift attention toward the skills required by future graduates (OECD, 2020), and this will only be possible with a high-quality and appropriately designed 21st-century education. The OECD report (2020) emphasizes that knowledge, skills, attitudes, practical knowledge, emotions, and values are needed to meet the demands of complex life and work situations that will arise in the future.

Teachers have a bigger role in ensuring these essential 21st-century skills are instilled in students, and for which the instructional competencies of teachers are very important. Instructional competencies are more than knowledge and skills needed for teaching and involve the teacher's abilities to skillfully mobilize the acquired knowledge and resources for students' skills development and to achieve the desired results. Focusing on 21st-century teaching and learning, the *OECD Learning Compass 2030* seeks a broad range of skills (OECD, 2018), including cognitive and meta-cognitive skills (critical thinking, creative thinking, learning techniques, and self-regulation); social and emotional skills (empathy, self-efficacy, and collaboration); and practical and physical skills (using new information and communication technology devices). This paper focused on the instructional competencies of teachers and the factors enhancing the instructional competencies of secondary school teachers in catholic schools in Chennai, India.

India is a land of a billion citizens, with nearly 30% of its population below the age of fifteen years (Agarwal, 2017), and thus has a youthful engine to promote economic growth. However, the Indian education system is lagging behind and is not trained to face the globalized world (Agarwal, 2017) amidst its newfound technological advancements. Agarwal points out that the Indian education system is geared more towards teaching and testing knowledge at every level, but the real need is appropriate skills for teaching different groups.

A structured interview conducted with the school leaders of catholic schools in Chennai pointed out that though changes to the school's infrastructure and new professional training were facilitated, 21st-century teaching and learning methods were still not visible in the classroom. Hence, school leaders have the daunting task of planning ideas and methods for teachers to conquer 21st-century instructional competencies. The teaching and learning in the 21st century have to be focused on the art of inquiry and on education based on experiences that make students think and reflect before taking a course of action (Ananiadou & Claro, 2009). Hence this study focused on factors that influence teachers to develop 21st-century instructional competencies that will make students possess essential 21st-century skills - to be creative, think critically, collaborate and communicate effectively.

Objectives

1. To determine the ideal 21st-century instructional competencies and the factors that influence those competencies.
2. To develop a survey instrument to assess the factors influencing 21st-century instructional competencies of school teachers in Catholic schools in Chennai, India.
3. To analyze the relationship between the factors influencing 21st-century instructional competencies of secondary school teachers in Catholic schools in Chennai, India.

Literature Review

21st Century Instructional Competencies

Competencies are complex skills innate or learned that make individuals successful in meeting particular demands in specific contexts. Teachers' competencies can be categorized as cognitive interpersonal and intrapersonal facets (Pellegrino & Hilton, 2012), which are highly essential to promoting student learning. These important instructional competencies focus on perceptions, processes, strategies, methods, and activities that are associated with 21st-century teaching and learning. According to Pellegrino & Hilton (2012), cognitive competencies are clustered as cognitive strategies, cognitive knowledge, and creative thinking. The cognitive strategies include skills associated with critical thinking, problem-solving, analysis, reasoning, and decision-making. Cognitive knowledge refers to skills of information literacy, technology, research, and communication. Creative thinking is a skill that looks for new perspectives of brainstorming or lateral thinking to generate ideas resulting in innovation. The cognitive competencies, when unified with interpersonal and intrapersonal competencies, invoke the 21st-century teaching skills in teachers (Pellegrino & Hilton, 2012). Interpersonal

competencies are teachers' expertise skills to work together with intellectual openness, work ethics, and self-evaluation. On the other hand, intra-personal competencies ensure teamwork and collaboration amongst teachers and possess leadership qualities to inspire and motivate colleagues, which are essential skills for 21st-century educators.

P21 Framework

The P21, *Partnership for 21st Century Learning Framework* (2007) attempts for a "unified vision for learning" that ensures students are progressive and successful, embrace change as it occurs, and be lifelong learners. The stresses of the framework are particularly on the skills essential for 21st-century skills and put that at the center of learning in many schools across the globe. The framework included elements that ensure 21st-century readiness for every child, and schools on board need to build on its foundation, combine systems of knowledge and skills to engage in good teaching and learning practices, create standardized assessments, engage in high-quality professional development, and create an excellent learning environment. The P21 framework is the answer to make students be engaged learners who will be better-prepared graduates who will prosper and thrive in a world that is digitally and globally interconnected.

Conceptual Framework

The conceptual framework is shown in Figure 1 with the main variables and processes involved in this study.

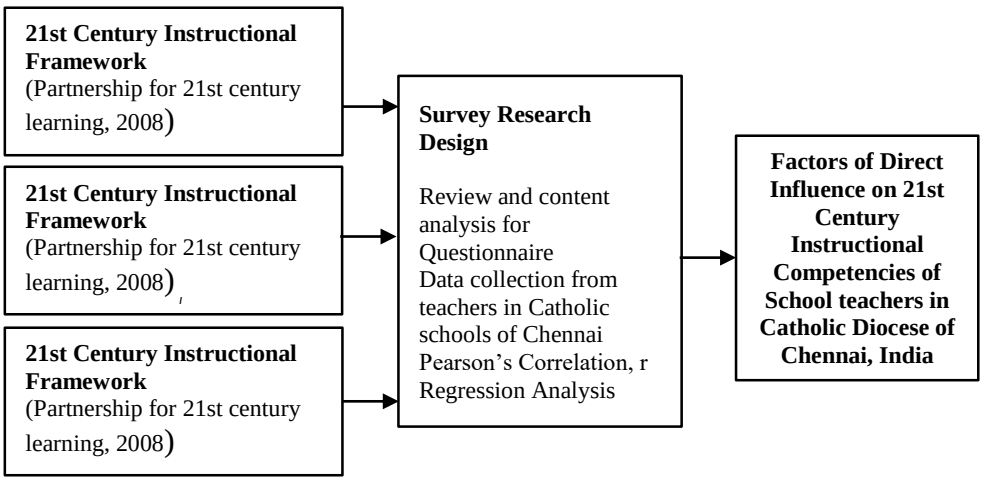

Figure 1. ***Conceptual Framework of this Study***

The conceptual framework started with the theoretical input from the 21st-century educational framework, 21st-century teaching, and learning and specifically focused on 21st-century instructional competencies (Pellegrini & Hilton, 2012) and on educational leadership theories (transformational and instructional theories). Specifically, these 21st-century teaching and learning methods focus on 4Cs (Creativity, Collaboration, Critical thinking, and Collaboration), research and problem skills, student-centered methodologies (inquiry-based learning, problem-based learning, and project-based learning), and assessment for learning. The key behaviors and traits of 21st-century educators and instructional leaders provided the essential keywords for the data search for the content analysis. The data for content analysis were sourced from both offline and online resources, including research articles, journals, books, and web pages. The survey instrument to assess the relationships between the factors was created for data collection and later used for statistical analysis. Finally, statistical methods - Means, Standard Deviations, Correlations, and Multiple regressions, were used to analyze and evaluate the data collected from participating teachers in this study.

Method/Procedure

Research Objective 1

To determine the ideal 21st-century instructional competencies and the factors that influence those competencies.

The source of data for objective one was articles, books, dissertations, journals, and online sources that were related to 21st-century education, instructional competencies, and instructional leadership. After reviewing the whole population of books and articles, the researcher selected 184 sources between 1999 to 2020. There were 296 extracts from these sources, of which 111 were relevant to instructional competencies and 185 for factors influencing 21st-century instructional competencies.

The research instrument for the collection of data from the books and articles was the researcher's coding sheet. The researcher collected the data by extracting the keywords from the vast literature pertaining to 21st-century education and its related instructional competencies. A thematic analysis of the content led to the development of the research instruments for data collection. Human coding was the method followed, and the frequencies of occurrences were found. The steps for data collection included preparation of sources, preparation of coding sheet, keyword extraction, a summary of thematic analysis, and obtaining results of content analysis. The Item Objective Congruence (IOC) check by five educational experts ensured

validity, and Cronbach's alpha score of 0.879 ensured the reliability of the content analysis.

Research Objective 2
To develop a survey instrument to assess the factors influencing 21st-century instructional competencies of school teachers in the Catholic Diocese of Chennai, India.

To develop the survey instrument, the results of the content analysis were presented to five experts in educational research, and this was followed with a discussion on the derived themes of the content analysis, which were the 21st-century instructional competencies and the factors influencing those competencies. As per the advice and guidance of the experts, the researcher prepared the first draft of the research instruments. The themes generated were the variables related to instructional competencies and the factors, while the sub-themes were the sources for the items of the questionnaire. The draft questionnaire was sent to the five experts for Item Objective Congruence (IOC). The research instrument was received and reviewed based on the comments, and the final draft of the research instrument was made. A pilot study was conducted with 20 teachers randomly selected from one of the Catholic schools of the Chennai diocese. The Cronbach's alpha score of 0.879 ensured the reliability of the items of the questionnaire.

Research Objective 3
To analyze the relationship between the factors influencing 21st-century instructional competencies of secondary school teachers in Catholic schools in Chennai, India.

To assess the practices of the 21st century instructional competencies and the factors influencing the instructional competencies, data was collected via the survey questionnaire developed from the previous objective. The population for data collection included all the secondary school teachers of the Catholic diocese of Chennai, India. The total population for this study was 422 teachers, and the researcher received 419 completed surveys. All respondents participated on a voluntary basis. The completed survey data was processed using database software and statistically analyzed using Mean, Standard Deviation, Cronbach Alpha, Pearson Correlation, simple linear regression, and hierarchical multiple regression. The regression coefficients and correlation coefficients were calculated to find the direct and mutual influence of the factors.

Findings/Results

The results of the findings for Objective One revealed that there were five important practices of secondary school teachers in exhibiting their instructional competencies. The review of educational literature followed by content analysis resulted in finding the percentages of occurrences under each theme. The occurrences for each theme were: *acquisition of content knowledge and skills* (ACKS) - 47.0%, *facilitation of students' learning* (FSL) - 33.7%, *developing leadership skills* (DLS) - 21.7%, *establishing a conducive learning environment* (ECLE) - 18.1%, and *reflection of teaching practices* (RTP) - 13.3%. These themes derived from educational publications provided the teachers' instructional competencies in secondary schools.

The findings also reveal seven factors influencing the instructional competencies of secondary school teachers. The percentages of occurrences for each factor are: *student-centered approaches* (SCA) - 46.5%, *professional development* (PD) - 41.6%, *use of information technology* (UIT) - 35.6%, *school leadership* (SL) - 22.7%, *school policies on teaching and learning* (SPTL) - 17.8%, *student participation* (STP) - 10.9%, *teaching and learning resources* (TLR) - 7.9%. These themes provided the factors influencing instructional competencies of teachers in secondary schools, which were one of the results obtained for objective one.

For Objective Two, the questionnaire was created constituting 54 items pertaining to the 21st-century instructional competencies and the factors influencing the instructional competencies, on a five-point Likert scale (1 – Strongly Disagree, 2 – Disagree, 3 – Neither Agree or Disagree, 4 – Agree, 5 – Strongly Agree). The dependent variable (*21st-century instructional competencies*) consisted of items designed to measure a*cquisition of content knowledge and skills, facilitation of student learning, develop leadership skills, establishment conducive learning environment*, and *reflection of teaching practices*. Table 1 shows the sub-variables under 21st-century instructional competencies, for example, the number of items and the alpha coefficients for each sub-variable.

Table 1. *Sub-variables of 21st Century Instructional Competencies and the alpha coefficients*

Sub-variable	Example	No. of items	Alpha coefficients
Acquisition of content knowledge and skills	"*My teaching often adopts a student-centered format of instruction.*"	5	.81

Sub-variable	Example	No. of items	Alpha coefficients
Facilitation of student learning	"*I eagerly participate in professional development organized by the school.*"	4	.83
Developing leadership skills	"*I believe that technology has made an impact on students in gaining new knowledge.*"	*3*	.80
Establishing a conducive learning environment	"*My school leaders motivate me to use 21st-century skills.*"	*4*	.77
Reflection of teaching practices	"*The school policies are designed to use 21st-century skills regularly.*"	*7*	.74

The first independent variable (student-centered approaches) consisted of items designed to measure student-centered methods, differentiation, assessments, and lesson planning. The second independent variable (professional development) consisted of items designed to measure belief, participation, and self-direction. The third independent variable (use of information technology) consisted of items designed to measure continuity, new-knowledge finding, and higher-order thinking. The fourth independent variable (school leadership) consisted of items designed to measure trust, support, motivation, and assessing skills. The fifth independent variable (school policies on teaching and learning) consisted of items designed to measure formation, decision-making, and assessment. The sixth independent variable (student participation) consisted of items designed to measure eagerness, participation, engagement, and motivation. The seventh independent variable (teaching and learning resources) consisted of items designed to measure adequacy, quality, and versatility. Table 2 shows the factors influencing 21st-century instructional competencies, examples, number of items, and the alpha coefficients for each factor.

Table 2. *Factors influencing 21st Century Instructional Competencies and the alpha coefficients*

Factors	Example	No. of items	Alpha coefficients
Student-centered approaches	"*My teaching often adopts a student-centered format of instruction.*"	5	.80

Factors	Example	No. of items	Alpha coefficients
Professional development	"*I eagerly participate in professional development organized by the school.*"	4	.77
Use of information technology	"*I believe that technology has made an impact on students in gaining new knowledge.*"	3	.79
School leadership	"*My school leaders motivate me to use 21st-century skills regularly.*"	4	.77
School policies on teaching and learning	"*The school policies are designed to use 21st-century skills regularly.*"	*7*	.81
Student participation	"*Students are eager to adopt new methods of learning.*"	*3*	.73
Teaching and learning resources	"*The school motivates me to try new teaching resources for the subject I teach.*"	*3*	.82

For Objective Three, the questionnaire was sent to 422 teachers in 20 secondary schools under the Catholic Diocese in Chennai. The total return rate of valid questionnaires is 419 (99.3%). The educational specialization and academic qualifications and the number of years of experience of the teachers were collected using the returned valid questionnaires. The different educational specializations of respondents were: 66 (15.75%) from English, 58 (13.84%) from Tamil, 86 (20.52%) from mathematics, 92 (21.95%) from sciences, 45 (10.74%) from social studies, 29 (6.92%), from commerce, 24 (5.72%) from economics, 19 (4.53%) from others specializations (Art, Physical education etc.). The questionnaire also gathered information on the highest academic qualifications of the respondents. The highest academic levels of the respondents were: Bachelor's degree by 138 (32.94%) respondents and a Master's degree by 281 (67.06%) respondents. 89.5% of the respondents had a teaching experience of more than five years. All the respondents had a Bachelor's degree in education, in addition to their highest academic qualifications mentioned above, as it is the minimum teaching qualification required to teach in Catholic schools in Chennai, India.

Results of Correlation between TFCIC and Factors

ÔThe relationship between the 21st-century instructional competencies and the factors influencing instructional competencies was determined by computing the correlation coefficients on the data of these two constructs, which is shown in Table 3.

Table 3. *Coefficients for Correlation between 21st Century Competencies (TFCIC) and Factors influencing 21st Century Instructional Leadership*

	TFCIC	*Factors*
TFCIC	-	*..641***
		.000
Factors	*.641***	-
	.000	

*Note. **Correlation significant at 0.01 level (2-tailed)*

Based on scales and interpretation of Dancey & Reidy (2017), the findings were interpreted in the coefficient in Table 3 as having a strong positive relationship between the 21st-century competencies (TFCIC) and the factors influencing 21st-century competencies. Pearson's r coefficient is computed as .641, at a significance level of .01, since the p-value obtained is .000.

Table 4. *Coefficients for Correlation between TFCIC and the Factors SCA, PD, IT, SL, SPTL, STP, and TLR, n = 419*

Variable	*M*	*SD*	A	1	2	3	4	5	6	7
A. 21st Century Instructional Competencies (TFCIC) Factors	4.26	.507	-							
1. Student-centered approaches (SCA)	4.40	.516	.560**	-						
2. Professional development (PD)	4.21	.527	.479	.572**	-					
3. Use of information technology (UIT)	4.18	.686	.585	.602**	.574**	-				
4. School leadership (SL)	4.29	.617	.493	.584**	.509**	.527**	-			
5. School policies on teaching and learning (SPTL)	4.20	.637	.562	.606**	.511**	.568**	.773**	-		

Variable	*M*	*SD*	A	1	2	3	4	5	6	7
6. Student participation (STP)	4.23	.616	.424	.388**	.472**	.502**	.396**	.466**	-	
7. Teaching and learning resources (TLR)	4.29	.645	.365	.443**	.430**	.404**	.612**	.672**	.491**	-

Note. ** p < .01.

Table 4 shows that there is a positive correlation between all the seven factors and 21st-century instructional competencies. The strength or magnitude of the correlation between (TFCIC) and the seven factors SCA, PD, IT, SL, SPTL, STP, and TLR ranges from weak to moderate. The weak (inter factor) correlation coefficient is found between the factors SCA and STP (r = .388) in Table 4. The largest coefficient is registered between SL and SPTL (r = .773). On a general note, the p-value for all the coefficient scores in the tables has a p-value of .000, meaning that all the correlation figures are significant at the .01 level (2-tailed). This shows a positive association between and within the factors in this study, and the association is not a matter of chance.

Results of Descriptive statistics of Factors

In Table 4, the findings of mean and standard deviation show the highest mean computed is for SCA (4.40), and the lowest mean is for UIT (4.18). Interestingly, SCA had the lowest standard deviation of .516. This indicates that the teachers are in agreement with the SCA being an important factor for their instructional competencies. The other interesting finding is that UIT had the highest standard deviation of .686. This indicated that the use of tools of informational technology is varied in secondary schools, as it solely depends upon the availability of resources, or it could be the type of resources that teachers are expected to have in class that is missing or not used in those schools.

Results of Multiple Regression Analysis

A multiple regression analysis was done to determine the influence of the factors on the instructional competencies of secondary school teachers. The results obtained by multiple regressions are shown in tables 5, 6, and 7 below:

Table 5. *The Model Summary*

					Change Statistics				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	R Square change	F Change	Dif1	Dif2	Sig. F Change
1	.677*	.459	.450	.376149	.459	49.768	7	411	.000

Note. * Predictors *(Constant):* PD, UIT, SCA, SL, SPTL, TLR, STP, Dependent Variable*:* TFCIC.

The value of R, termed the multiple correlation coefficient, represented the measure of the quality of the prediction of the dependent variable, 21st-century instructional competencies (TFCIC). The R-value of 0.677 in the table indicated a good level of prediction. The R^2 value, called the coefficient of determination, provided the proportion of variance in the dependent variable that explained the independent variables. The R^2 value of 0.459 showed that the independent variables explain 45.9% of the variability of the dependent variable, 21st-century instructional competencies (TFCIC).

Table 6. *The Anova Table*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.291	7	7.042	49.768	.000*
	Residual	58.152	411	.141		
	Total	107.442	418			

Note. * Predictors *(Constant):* SCA - *Student-centered Activities*, PD - *Professional Development*, UIT - *Use of Information Technology*, SL - *School Leadership*, SPTL - *School Policies on Teaching and Learning*, STP - *Student Participation, and* TLR - *Teaching and Learning Resource;* Dependent Variable*:* TFCIC - *21st Century Instructional competencies.*

The F-ratio in the ANOVA table shown above tested whether the overall regression model was a good fit for the data. The table showed that the independent variables statistically significantly predicted the dependent variable, $F(7, 411) = 49.768$, $p < .001$, proving that the regression model was a good fit for the data provided. Table 7 shows the regression coefficient for all the seven factors used in this study.

Table 7. *Regression Coefficients*

Factors	Estimate	*SE*	95% CI		*p*
			LL	*UL*	
Student-centered approaches	.200	.051	.096	.297	.000*
Professional development	.065	.047	-.031	.155	.188
Use of information technology	.252	.038	.111	.261	.000*
School leadership	.028	.050	-.074	.121	.640
School policies on teaching and learning	.256	.052	.101	.307	.000*
Student participation	.105	.038	.012	.161	.023**
Teaching and learning	.094	.041	-.154	.006	.071

Note. Dependent Variable: 21st century instructional competencies (TFCIC), total N = 419; CI = confidence interval; * p <.001, ** p <.05.

The results in Table 7 showed that *Student-Centered Approaches* (SCA) - β = .200, *Use of Information Technology* (UIT) - β= .252 and *School Policies on Teaching and Learning* (SPTL) - β = .256 were significant at the 99% level of confidence, with p-value <.001 for each. At p <.05 level of confidence, the independent variable STP was found to be significant, with a beta coefficient of .023. These results indicated that four factors, SCA, UIT, SPTL, and STP, are significant at p <.05 to the dependent variable TFCIC and hence had a direct influence on the 21st-century instructional competencies (TFCIC).

Discussion

The seven factors identified in this study have their importance as contributing components to the 21st-century instructional competencies of secondary school teachers. The overall mean score of 3.780 is interpreted as "very good." However, considering the effort taken by the Catholic diocese for secondary education in scheduling training programs and workshops, the expectation would be at an excellent level (greater than 4.500). The highest overall mean score was for the *acquisition of content knowledge and skills* (3.912), and the lowest mean score was for *reflection of teaching practices* (3.581). These results align with the ideas of the school leaders who expressed their ideas during an informal meeting. Principals reiterated that teachers were generally good at facilitating students' learning and ensured mastery of subject content. However, they lacked skills of self-reflection, weighing their own teaching practices, to know their pitfalls, and making appropriate corrections. This present study defined 21st-century instructional competencies as the acquisition of knowledge and appropriate teaching skills, facilitation of student learning, development of leadership skills, establishing a conducive learning environment, the reflection of teaching practices, and enhancing student participation in the learning process.

To integrate 21st-century skills in students, teachers should engage in student-centered learning, making their instructions relevant by adopting student-centered methods that promote student interest (Robinson, 2011; Dignath et al., 2008) in the subjects learned. Student-centered approaches used direct methods combined with critical thinking elements that were brought in through prior knowledge (Lall, 2021), and the contents of the curriculum were implemented through engaging activities. Thus engaging students in classrooms provided ample opportunities to be creative, collaborate, reflect, problem solve, ideation, and increase proficiency in technological and testing skills (Rodriguez et al., 2019). Student-centered approaches encourage students to investigate the content of the subject (Shola et al., 2018), know where and how the information was derived, expand students' knowledge horizons, and satisfy their natural curiosity.

The 21st-century teachers were aware of the immense potential of information technology to enhance their teaching skills (Markauskaite, 2007) and know how technology-enabled classrooms allowed learners to collaborate, problem-solve, and gain higher engagement and deeper learning (Fei & Hung, 2016). Hence, teachers should infuse technology into lessons through effective planning to include it throughout the curriculum and in all instructions across content areas.

School policies ensure that secondary school teachers advocate all methods possible to convene classroom instructions capable of instilling 21st-century skills in students. The promotion of an orderly classroom facilitated student learning and ensured positive management of student behavior (Henriksen et al., 2016; Guo et al., 2016) and effective communication, which were vital in sharing 21st-century skills in classrooms. School policies enabled teachers to adhere to 21st-century practices, positively affecting students' learning (Ahonen & Kinnunun, 2014). The curriculum planning should incorporate multiple indicators, both formative and summative, to monitor and evaluate student progress (Jackson, 2014) and to inform change in instruction. Providing such evidence helped school policymakers to plan lessons to attain 21st-century knowledge, skills, and dispositions.

Student participation aided the promotion of instructional competencies of secondary school teachers (Robinson et al., 2007) to enhance 21st-century learning in students. Students engaged in meaningful ways to think and collaborate, as well as improved in critiquing skills (Fei & Hung, 2016), which exhibited good learning. Student participation increased through student-centric methods, advancing them from known and prior experiences to more complex skills and creating a rich environment that supports collaboration and provides cognitive support (Darling-Hammond et al. (2020). Also, teachers needed to treat students as individuals, maintain a conducive learning environment (Hirsh, 2009) and convey their high expectations for every student. Teachers have to reach out to every student by employing a variety of methods (Ahonen & Kinnunun, 2014) to communicate effectively with all learners and consistently encourage and support students to achieve their best.

Conclusion

In conclusion, this study was useful in pointing out key instructional competencies and their influencing factors in developing 21st-century skills in secondary schools. Firstly, in the context of instructional practices of secondary schools in southern India, there is a positive association between the *21st-century instructional competencies (TFCIC)* and the seven factors identified, namely *student-centered approaches (SCA), professional*

development (PD), use of information technology (UIT), school policies on teaching and learning (SPTL), school leadership (SL), student participation (STP) and *teaching and learning resources (TLR).* This meant that by focussing on these factors, the instructional competencies would enhance further and improve the 21st-century skills in secondary school students. Secondly, the four factors of direct influence - *student-centered approaches (SCA), use of information technology (UIT), school policies on teaching and learning (SPTL),* and *student participation (STP)* are very important in building up 21st-century instructional competencies (TFCIC) in secondary schools. Thus, the study calls to foster these factors, with appropriate changes made to teaching methodologies, infrastructure, school policies, and learning environments in the ways suitable to southern Indian schools, to further improve 21st-century learning. This study calls for further research using other methods of data collection and analysis on the relationship between the factors influencing 21st-century instructional competencies.

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