The Personal Learning Environment of Female Gifted Students in Light of the Three C's Concept

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Abstract

The study aimed to identify the reality of the personal learning environment of gifted students and to detect the most important strategies they practice to interpret them in light of the three C's concept for teaching the gifted. The researcher adopted the qualitative approach, a case study. The study comprised (5) gifted female students who were under observation and were interviewed for a long period. The two tools of the analysis were verified for validity and reliability. The results were analyzed objectively. The foremost findings the researcher came up with were as follows: There were differences in personal learning environments concerning the tools, but they were closer to the guided personal learning environment. They all showed a high level of digital competence. The results also revealed that the most important strategies the gifted practiced were four: self-identity, thinking skills, building relationships with others, and community services. These were interpreted in light of the three C's model, which bolsters building positive relationships with others, develops higher thinking skills, supports compassion and community services, and finally supports mercy creation. In light of such results, the researcher presented some recommendations.

Keywords: *Digital competence; Personal learning environment; Three-c-model; The gifted.*

Introduction

In light of the cognitive and technological developments in all fields of life, great attention was paid to individuals with exceptional capabilities who could help develop their communities through creative productions, innovative-problem solving, and world challenges. Due to that, countries showed a great interest in the gifted who were provided with educational services, propitious to their needs and inclinations to cope with modern age updates, which develop their talents and raise them up to an outstanding level by which they creatively produce things to improve society.

Because modern learning requires students to use developed tools that cannot be ignored, personal electronic learning (e-learning) environments appeared. Students can use these for educational purposes that enable them to determine a learning environment that is based on multiple options and personal strategies propitious for internet access to sustain continuous learning. Ahmed et al. (2023) pointed out that learning personal environments help learners control their knowledge by which they can cooperate to develop their skills and potential in all fields: mental, psychological, and social.

(Kaminska, 2019) also indicated that the gifted have an adequate knowledge of technology which helps them design a self-active environment by which they can collect and process information. They are distinguished for keen observation and frequent

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questioning. They are remarkably inclined to work independently; thus, their work is internally, not externally, motivated (Jarwan, 2012).

Modern age requirements obligated that old theories and literature on the gifted had to develop to cope with the changes affecting modern life's approach to the concept of giftedness, which formerly exaggeratedly focused on the individual and ignored the social background in which the gifted grew up. Human life is complex and interconnected and might be influenced by the actions of one individual. Therefore, new concepts for giftedness that substituted the old ones emerged; the most important was the three C's model for teaching the gifted, which generated the idea of transformational giftedness. The new concept provides a social structure based on educating the gifted by focusing on problem-solving, positively contributing to the public interest, and helping personal transformational leadership achieve higher human ideals. It is argued that the three- C model should focus on developing all types of giftedness whose function should be transformational and pivotal toward teaching the gifted and considered a form of developing an individual's competence and a commitment to abide by the task of concern for others.

The model should focus on: concern for others, grasping their needs, reinforcing the sense of belonging, practicing an emotional desire for help, and augmenting work motivation. Scholars of gifted teaching ascertain that developing concern for others in teaching the gifted is essential. (Cho kase & Watve, 2022) noted that developing this side in the individual is deficient.

As previously mentioned, teaching the gifted in the digital age underwent changes from which new teaching models emerged; the personal learning environment was one of them. The researcher found it necessary to examine the personal e-learning environment that the gifted created in light of the three- c- model to understand how it was used and formulated and how they interacted and cooperated with others during the learning process. Do the tools and strategies use to develop skills of concern for others and sympathize with them positively, or do the gifted need guidance from educators, teachers, and experts?

Objectives of the study

The study aims to identify how gifted students create their learning environment, the strategies they adopt to gain knowledge, and how they interact with others. It also seeks to unveil the strategies these students practice in the personal learning environment that augment concern for others, one of the most influential circles of the three-C's model for gifted teaching.

 Statement of the problem

As the world is undergoing an information and technological revolution, gifted students, to keep pace with that, need to be provided with the best methods and modern equipment to guarantee to utilize their potential to benefit themselves and their community. Many studies proved that the gifted are distinguished for several cognitive traits, of which the most important: curiosity, enthusiasm for learning, and preference for the activities that challenge their minds to which they provide solutions and creative ideas.

(Kaminska, 2019) pointed out that some of the gifted prefer individual learning as they have their own opinions by which they can achieve their goals. In the personal learning environment, they usually demonstrate an ability to master modern activities and learning strategies associated with modern technology and the internet. They can use them, process information and scientific research, and are more willing to use such technology than ordinary students. Thus, by using technology, they can design a more active personal environment that helps the gifted develop scientific research and

positively use technology to process data for their benefit and the community to which they belong.

(Atwell, 2007) mentioned that personal learning environments have been remarkably spreading. They combine various tools based on social programs that bolster online learning and secure opportunities for learners to adapt the learning environment to particular learning needs. (Kozuh, et al., 2015) Ascertained that social interaction should integrate with extant social evidence more efficiently in PLE. The intensity of actual social interaction correlates with students' academic success. In addition, a strong relationship exists between social presence and students' performance in writing tasks. He also indicated that many studies had found that social media also impacted non-academic skills, such as self-expression and social communication, which play a significant role in social interaction.

What preceded attracted the researcher's attention to focus on the reality of a gifted personal learning environment with a particular emphasis on concern for others. In addition, she examined the strategies and tools adopted to develop this issue, which is considered one of the three C's model circles for gifted teaching that determines the practices used by the talented to get an adequate understanding which discloses whether or not they need guidance and enlightenment for the skills required to develop concern for others. She also wanted to identify the gifted needs to develop their potential and abilities by bolstering social behavior, compassion, and mercy. However, the statement of the problem might be outlined in, "What is the reality of the personal learning environment of the gifted, and what are the strategies adopted by them to gain knowledge and the way they interact with others, besides unraveling the skills that develop concern for others which is one of the primary circles of the three C's model for teaching the gifted."

Study questions

The questions are outlined as follows:

1-   What is the reality of gifted students' learning environment?

2-   What strategies do the students practice to build a personal learning environment to develop concern for others?

Significance of the study

The significance stems from two aspects:

•   Scientific: Modern literature provides new concepts for giftedness and gifted teaching, but there is a gap in the applied studies concerning modern attitudes. The significance of this study stems from being one of the rare studies that focus on the three C's model for teaching the gifted and the way they build their personal learning environment in light of that model. Therefore, it will be a source of inspiration that provides the expert with educational and technical strategies that develop their abilities in the domain of concern for others. Such things will create in them positive social behavior and compassion skills. The current study has been concurrently interested in specialists' interests in giftedness and designing programs that match modern-age requirements. In addition, it will add up new things to the rare education research that adopted the qualitative approach.

•   Empirical: The study attempts to determine the most essential practices that help create personal learning eventually, which encourages gifted students to self-learning by utilizing their technical potential to develop positive social behavior, compassion, and mercy. That eventually develops in their concern for others, the major component of the three C's model, which will be achieved by identifying the positive aspects of educational strategies, technologies and how to utilize them. However, the study presents a way that enables students to build a personal learning environment that will benefit the concerned

with gifted learning by guiding them to the path of building teaching tools propitious for their environments, which promotes concern for others.

Study terminology

-          Personal learning environment: procedurally, the researcher defines it as "a set of tools, digital resources, and technology programs the student uses to construct information, manage and organize them in a social context that copes with learning preferences."

-          Gifted females: The Saudi Ministry of Education defines the gifted to be the students who have abnormal capabilities and outstanding performance in one or more of the fields the society appreciates, especially the fields of mental excellence, creative thinking, academic achievement, and special abilities and skills. These students need special educational attention, which is missing from ordinary school programs (Mawhiba Site).

The researcher defines it to be the students who passed the giftedness scale.

-          Concept of the three C's model for gifted teaching

          (Chowkase, 2022) pointed out that skillful behavior dictates the interaction of three human traits (an individual's competence in action, commitment to task, and concern for others).
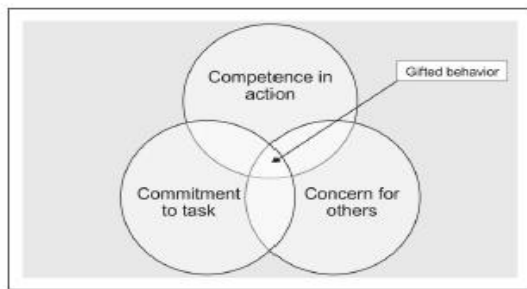
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Figure (1) The three-c- concept for giftedness

Study limitations.

•   Object limitation: The study is limited to the reality of gifted personal learning environments to identify the strategies they practice in light of the three C's model for gifted teaching.

•   Time limitation: second and third semesters of the academic year 1444 A.H.

•   Human limitation: Five female students of the first secondary level.

•   Space limitation: Three different secondary schools from the Ihsa governorate.

Study framework

Theoretical framework

First axis: The concept of the personal learning environment

There has yet to be a definite concept that researchers agreed upon concerning the unique learning environment. By reviewing the relevant literature, the researcher outlines some important ones as follows:

(Faqeeh, 2015) defined as a website that allows the learner to integrate a network of devices, tools, and applications with Web 2.0 in a systematic way that he chooses

according to his cognitive needs. (Abdul Atti & Abdul Atti, 2020) Defined it as a learning environment that allows the learner to select, organize, employ, and manage a set of different applications, tools, and Web 2.0 services assigned for developing unique content and controlling the process of learning according to his personal and cognitive needs that he might share with others.

Characteristics of personal learning environments

These can be outlined in the following:

1-   Constructivist Theory: The theory considers the learner the axis of the learning process, where he gets knowledge from networks due to social interaction with learners. The approach also emphasizes the teacher's role as a supervisor who provides continuous support by securing development means (Vygotsky, 1978).

2-   Connectivism Theory: this is derived from the Social Constructive Theory, which was elaborated on by (Siemens, 2005). It encourages: interlinking specialized groups, determining research information, distinguishing between what is important and non-important, comprehending relationships between different groups, and maintaining

3-   communication to ensure learning continuity.
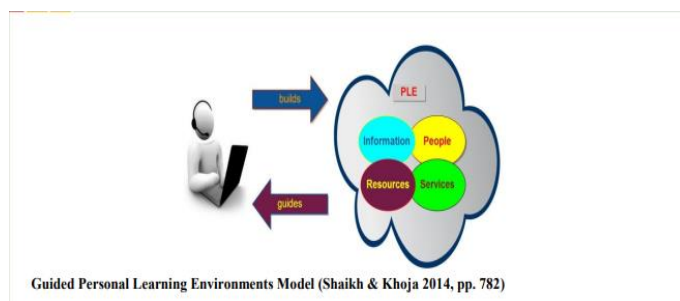
Models of Personal learning environments

These include the following:

1-   Wilson's conceptual model: It was introduced by (Wilson et al., 2006) to explain the potential of a personal learning environment that includes web tools, one through official learning and the other through an external one. Among the issues the model focuses on is the ability of the learner to consume resources and spread them systematically while opting for the tools that serve both teacher and learner. This model allows the coordination of tools and services provided to the learner. It will enable the learners to share their learning environment with others on social web networks.

2-   Johnson's reference model

(Johnson et al., 2006) described the personal learning environment as the learner's ability to utilize services within the information; environment; services mean personal learning tools. Johnson and others designed a general pattern for the personal learning environment that comprised tools and services characterized by the flexibility to cope with modern technology.

3-   Guided personal learning environment. (Shaikh & Khoja, 2014) Developed a personal setting that was based on the teacher's support and guidance to back learners during the learning process via free web services, as shown in the following figure:

Guided Personal Learning Environments Model (Shaikh & Khoja 2014, pp. 782)

The model emphasizes the following points:

•   The role of the teacher as a supervisor and supporter of the personal learning environment.

•   Personal learning environment helps individuals to depend on themselves in learning forever.

•   Supporting interactive learning through social and educational theories besides educational models.

•   Personal learning concept proves itself to be a system for personal e-learning.

Thus, the learner can build his learning environment and share knowledge and references with others. In addition, he will be able to identify learning goals under the supervision and support of the teacher.

The learner and the teacher are required to master many skills, the foremost of which are: productive, logical, and visualization skills.

Moreover, the learner needs to be self-organized, construct knowledge, cooperate, and share with others.

This study will focus on this model because it is closer to the personal learning environment of study sample members.

The second axis: The gifted and their cognitive qualities

Several theories tried to determine the giftedness concept throughout the ages, but all scholars accepted no single definition. For (Qimsh, 2017), the gifted are individuals whose performance reflects high mental, creative, artistic, and leadership abilities. Procedurally, (Qureiti, 2015) defines the gifted as a person who enjoys outstanding qualities that distinguish him cognitively.

Cognitive qualities of the gifted

Gifted students enjoy qualities that distinguish them from their ordinary peers. The cognitive qualities are divided according to age stage. The qualities of the childhood stage might be outlined as follows: children`s practice of divergent thinking, concentration on their interests, love for reading, having good articulation ability, enjoying an academic level higher than their peers, having a strong memory with an ability to solve problems and think in an unusual way in making their decisions (Salameh, 2018).

Their qualities of other age stages might be outlined as follows:

-      The gifted are curious, persevere, aware of the surroundings, critical of themselves and others, linguistically wealthy, knowledgeable, able to correlate ideas with themes, flexible, and finally self- evaluative (Suroor, 2018).

The preceding reveals that the qualities of the gifted are complex, interactive, and developing throughout age stages.

Third axis: Gifted three C's model

It is a proposed model in which teaching the gifted is viewed as developing an individual's competence, commitment to task and concern for others. Competence includes abilities and skills needed to perform anything intelligently; task commitment indicates an individual's catalytic motivation to continue with the task; concern for others incorporates abilities to understand others' needs, challenge them, communicate with them, and develop readiness for work in a world of inequality (Chowkase & Watve, 2022). None of the three components is adequate, as they interact, constituting a group of abilities, skills, and behaviors.

The following are the circles that comprise the model:

•   Individuals' work competence

This component assumes that the individual possesses various skills: academic, mental, visual, motion, or creative. Developing these skills can be achieved by creating the competence needed to perform the task intelligently. To complete the development of any talent, the individual has to accomplish a high level of competence in one field or more.

Therefore, teaching the gifted should focus on developing their skills through providing education programs propitious to their abilities, interests, and stages of development (Chowkase & Watve, 2022).

• Task Commitment

This component refers to an individual's catalytic motivation to continue doing the task. It comprises a set of non-cognitive traits such as persistence, will, and perseverance. It is one of the essential components which catalyze the development of talent. Therefore, teaching the gifted should be concentrated without hindering task implementation.

• Concern for others

This is incorporated in considering others' needs and challenges, developing a sense of belonging, love for help, and creating work motivation. At a late stage, the concern should take positive and significant procedures.

(Chowkase & Watve, 2022) Pointed out that scholars and educators of the gifted should focus on developing concern for others as human life is interconnected; the individual might affect others. Humans can intrinsically communicate with others cognitively, emotionally, and socially. In addition, individuals share a set of emotions, mental abilities, and means of communication. The concern for others is considered a flexible set of traits, abilities, skills, situations, and behaviors which can be obtained via the following three aspects, as the researcher sees:

First: Compassion

(Chowkase & Watve, 2022) Define it as an individual's ability to unveil emotions toward another person. It comprises emotional aspects: warm feelings, concern for others, and cognition. Individuals use one of these aspects or both to help others, to which the third aspect, empathy, is added. It is the social motivation by which sympathetic people help others for their own interests, irrespective of the expenses they incur. This might be developed through interventions that are classified into four categories; the first is adopting the perspective interventions, which are of two types, direct and indirect, that the researchers used. The former includes active role-playing, which aims at experimentation, while the latter directs participants to envision ideas or a target position. As for the second category, it focuses on interventions in curricula; it incorporates instructions and a set of discussions on active-based learning. In the third category, teachers actively use aural and visual materials. The fourth category adopts a method for skill training and focuses on compassion expression more than compassion experiment.

Second: Empathy

It is a mental case in which one tries to please others. It is the desire to mitigate the suffering of others. Teaching empathy is important, especially during the adolescence period. The approach that is widely used in teaching empathy is known as perception-based compassion training; it is the mental training that naturally switches from focusing on the self to concentrating on the other. The focus will also be on developing empathy, love, patience, and perseverance. (Chowkase & Watve, 2022) Present recommendations to teachers of adolescents: compassionate listening to others, sympathizing with oneself, and mercy toward others. Empathy listening exercises might be done in binary groups focusing on vigilant listening, including home or societal exercises, helping adolescents overcome self-criticism using self-compassion techniques.

• Positive social conduct

It is a wide range of procedures that aim to benefit from more than one person other than himself, such as cooperation and helping others. It correlates to positive development outcomes like long and short-term academic achievements, self-respect, and life satisfaction. On the personal relationship level, positive social conduct correlates with

peer relationships, civil partnership in the transitional stage from adolescence to maturity, and a sense of belonging to society. More importantly, when many people begin practicing positive social conduct that stems from good intentions, the world community will be more equitable, humane, and sustainable.

(Chowkase & Watve, 2022) Mentioned that selected educational interventions might develop positive social conduct through enlightenment sessions on positive social values, passion organizing skills, viewpoints adoption skills, and communication skills. A recent review revealed that the active interventions used a blend of strategies that comprised behavioral, cognitive, and emotional skills. The behavior encourages and reinforces positive social behavior through modeling, explication, and verbal and non-verbal feedback. The cognitive strategies comprised knowledge-based curricula skills, cognition, and problem-solving. The emotional strategy identified feelings and consolidated them.

Based on the previous presentation of modern directives of the three C's model concerning the concept, models of giftedness, and community structure, which are essential for giftedness models, provide services for the interest of others. The directives also call for developing an individual's capabilities to help him reach the stage of providing solutions for community problems by developing the skills of the gifted.

Literature review

The researcher down below outlines the studies relevant to her research work as follows:

The study by (Hussein, 2021) aimed to measure the impact of the interaction between alternative assessment techniques (self-assessment, peer assessment, and communication assessment), besides the (active/ contemplative) learning methods of the personal learning environment of critical thinking skills of faculty of education students at Halwan University. The study was applied to the second Department of technological education group in the "E-education" course. The researcher used the Netvibes platform as a personal learning environment. The study sample was divided into five experimental groups. The results showed that the self-assessment technique was excellent for developing critical thinking skills. The results also revealed differences with statistical significance in the interaction between the old alternative technique and the learning method in favor of self-assessment with active learning. In addition, there were no differences with a significant level that might be attributed to the difference in learning technique (active vs. contemplative) in critical thinking and involvement with learning environments. The results also revealed that assessing peers with active learning was excellent for developing participation in a personal learning environment.

The study by (Hasan, 2021) aimed to develop a mini-mobile learning environment based on personal response systems and its impact on developing the 21st skills of graduate students from the College of Education at Umm Al-Qura University. The sample comprised two groups: the first was experimental of waiting students, and the second experimental group was of impulsive students. The researcher used two tools: (T) test of cognitive skills to measure 21st-century skills and the monitoring card to measure the performance of those skills. The results revealed that there were no differences with statistical significance at the function level between the means of the waiting group and the impulsive one in the post-application of the achievement test and the monitoring card regarding 21st-century skills, which might be attributed to the mini-mobile learning environment based on personal responses. The study recommended holding training workshops for teaching staff members to benefit from personal response systems, their design, and the extent of agreement with students' cognitive qualities.

The study by (Milhem, 2021) aimed to detect the different support types of personal teaching environments for developing students' e-learning skills at King Faisal

University. The researcher adopted the analytical descriptive and semi-structured approach. The study sample comprised students of the university. The researcher used a questionnaire and an achievement test. The results showed that there were differences between the types of support of the personal learning environment and the achievement test. The researcher recommended that university students should be trained on how to use a personal learning environment taking into consideration methods of interaction among students themselves and with their teacher as well. He also recommended using the personal learning environment in all set courses and providing teachers with all the skills which make them distinguished through using the two types of supportive learning.

The study by (Jiang Koo, 2020) aimed to detect the envisioned emotional presence in non-traditional graduate students demonstrated by online learning experiments. The qualitative and quantitative data were collected from (45) graduate students from Texas. The results revealed that the participants in their responses showed positive emotional expressions, such as: listening and gaiety, and negative ones, such as frustration and disappointment. The results of emotional assessment were much less than those of cognitive, educational, and social presence. The emotions of different functions in the participants' responses were also specified. The feelings shared by students, their teachers, and peers showed a strong emotional need for communication. Emotional feelings related to the final results of learning were also specified. The results ascertained that the emotional presence per se was an important indication of the satisfaction of the non-traditional graduate students of online learning.

The study by (Kaminska, 2019) aimed to present how talented students created personal learning environments. The researcher adopted the quantitative approach in which she surveyed the opinion of (50) students of (20-24) years of age, from renowned Polish universities, on the personal learning issue and digital efficiency. The results revealed that the gifted students were aware of digital technology and the tools that allow them to v. They could also collect and process information professionally. In addition, they were careful about sharing the educational process through the Internet with others. They also preferred to discuss online learning problems using suitable means like social media and chatrooms. According to the study findings, the researcher concluded that gifted students could build and improve digital learning very well.

The results also revealed that educated learners used advanced learning strategies, collecting and saving information, besides teamwork tools. Although the learning environment is theirs, they still love to share knowledge with other learners. In addition, the level of information competence of gifted students is very high.

Commentary on the studies

By reviewing the previous studies, one can notice that they were of three types: one focused on the competence of the gifted in building a digital personal environment, while the other focused on the impact of that environment on developing higher thinking skills. The third type focused on the social-emotional side of the personal learning environment. The study by (Jiang Koo, 2020) indicated that emotional and social presence had negative impacts, like disappointment, or positive ones, such as gaiety and enjoyment of online learning in a personal learning environment. The results also indicated participants' need to communicate emotionally with others.

As for the study by (Kaminska, 2019), it was the only one that tackled the gifted and revealed that they had a high level of digital competence for building a personal learning environment. The study by (Hussein, 2022) also showed positive trends and satisfaction toward using that environment in developing three-dimensional digital learning, besides higher thinking skills and critical thinking. The study by (Milhem, 2021) emphasized the need for training on the personal environment in all courses and the interaction between students among themselves and their teachers as well. It is noted that the personal learning environment is not limited to the knowledge the students gain from

or outside school but includes both. The knowledge the student gains from outside school is an extension of that of school. It is also noted that the studies concerned with studying the personal learning environment in light of the three C's Model that focused on concern for others were rare. The studies that focused on the gifted were also rare; most concentrated on ordinary group samples. Moreover, the majority focused on university and graduate levels, but the current study tackled a recent issue in gifted education via the three C's model. In addition, it took a sample from the talented and the secondary stage because of the research gap she found in this respect.

Study methodology and procedures

This section discusses, in detail, the procedures adopted to achieve study objectives about research methodology, method of selecting the sample, tools used, verification of validity and reliability, tool dependency, application procedures, and method of analysis, as follows:

Study method

The researcher used the multi-case approach as one of the qualitative approaches to profoundly understand the reality of gifted students' practice of strategies for developing concern for others in the personal learning environment.

Study sample

A purposive sample was selected for a profound study of the phenomenon without a need for generalization. The sample was selected from the students who passed the giftedness scale from different schools after taking permission from school management and students' parents, as presented in the following Table:

Table (1): Number of selected samples

Number of students willing to participate	Secondary school (1)	Sec. school (2)	Sec. school (3)	Sec. school (4)
	One student	Three students	One student	One student
Number of students not willing to participate	-	-	3	-
Stage	First secondary class			
Total	Five students			

After selecting the sample, an exploratory experiment was conducted. It was found that a voice recording of the interview should be done, and another researcher was needed to apply the observation card. Permission for recording the interview of participating students was also taken.

Study tools

To achieve the objectives of the study, the researcher used the following two tools:

1-   Observation:

The researcher prepared a bound observational card through the following stages:

-      Determining objectives of the card: The card aimed to specify the most important practices the students should apply in the personal learning environment, which develop concern for others using the three C's model.

-      Preparing the card in two parts; the first is set for data on the student, which the researcher will fill out while attending a face-to-face or online class. The second part includes a list of the most important strategies and practices the students should apply to the personal learning environment, which help develop concern for others. The researcher assures that the personal learning environment, by guidance and support of the teacher,

extends beyond school. Therefore, the researcher limited the application of the observation card to a classroom because the students are in an environment equipped with modern technology and the internet to help them learn. She left a column to jot down her remarks on every practice and strategy for comment if necessary. The observation card was designed according to the three C's model proposed by (Chowkase & Watve, 2022). It comprised (3) axes presented in the following Table (2).

Table (2): Number of strategies according to each axis of the initial observation card

Axis	Compassion			Empathy		Positive social conduct		
Number of strategies	Adopted perspective	Focuses on curricula	Focus on empathy training	Sympathize with		Education strategies	Conduct strategies	Cognitive strategies
				Self	Others			
Number of skills in each strategy	2	2	4	4	4	5	1	1

An exploratory experiment of the observation card

The researcher applied the card to three students after assuming that detecting the strategies of each skill was possible. After analyzing the data, the gifted students collected on concern for others, and whether they were complete or needed development, she felt that the possibility was reachable. The researcher also found that attending the two types of classroom visits was necessary because each v. In addition, the online class was easier to determine the technological skills the gifted students had by which they could create a personal learning environment.

Credibility and reliability of the observation tool

The tool was submitted to a group of six specialists in the domain of gifted education to ensure the propriety of card items to the theme of the study and to detect the strategies practiced by the expert. Certain modifications were done in compliance with the judges' opinion.

The observers' consensus verified the credibility of the analysis used in the study. Classes were invigilated by one of the researchers (with an M.A. degree in gifted education) and another colleague who was trained to use the card and monitor strategies and skills practiced by the students in the personal learning environment by the three C's model. The degree of compatibility was computed according to the copper formula:

Observers' credibility coefficient= Number of agreements X 100

Number of agreements + Number of differences

The compatibility between one of the researchers and the colleague was (26.86), a credible percentage observation.

2- Interview

The researcher used a semi-structured interview, which enabled her to organize interview questions. One of the aspects of the interview was getting information that couldn't be collected by observation about identifying feelings and opinions (Abdul Karim et al., 2012). The interview also improved the quality of the qualitative aspect of the research as the information was collected from several sources that could secure more data for the researcher.

• Constructing the interview

The process went through the following steps:

•	Determining the objectives of the interview: The study aimed to identify the gifted students' skills and develop concern for others. This issue couldn't be made clearer by the observation tool.

•	Preparing the interview in light of the three C's model after reviewing the relevant literature in coordination with the list of strategies that the gifted students might apply and help develop concern for others. The researcher would address sequential or probe questions to students if the answers were insufficient and needed more clarification.

Virtual validity of interview tool

To verify this, the tool was submitted to a set of judges, besides conducting an exploratory experiment as follows:

Validity of judges

After the initial interview was set in its initial form, it was submitted to a group of (3) judges specialized in gifted education to ensure linguistic clarity of the items and their correlation to the theme of the study. The judges suggested modifying some phrases without any deletions. The final number of interview questions came to (9).

Conducting the exploratory interview

The researcher conducted this type of interview to identify the clarity of the questions and the time needed for them. The result revealed that the questions were straightforward for the two students. The duration of the interviews for both students was (36) and (30) with an average of (33). It was found that voice recording of students' answers had to be recorded, a quality that could not be obtained by writing.

Procedures of study application

After determining the study sample and obtaining approvals from school management and students' guardians, the researcher started the application in the second and third semesters of the academic year 1444 A.H. The procedure for interviewing three students about class time and suitable days for the students and teacher was secured. Interviewing the fourth student was easy because she was in the school where the researcher works so she could be easily monitored inside and outside classroom.

As for the fifth student (Bayan), a class was organized via Teams Application and observation card to conduct the interview. The following Table (3) illustrates the procedure.

Table (3): Number of visits and interview duration

The student	Bodoor	Taghrid	Khawleh	Noura	Bayan
Number of class visits	3	2	2	2	2
Interview duration	20	30	30	30	30
Number of interviews	2	2	2	2	3

As for the observation card, the researcher wrote down students' responses to their skills and activities, besides participation in technological activities and interactions with friends. Such data were analyzed and dumped into a Word document.

Credibility and dependability

•	Credibility is measuring what the test was put for. To analyze it, the researcher used the following:

-	Multiplicity: Diverse methods, represented by observation and interview, were used for collecting data.

-	Using voice recording to enhance credibility.

- Assigning enough time for data collection.

- Ensuring credibility by writing down interview data after dumping them.

- Dependability: It is equal to rehabilitee in quantitative research. To achieve that, the researcher was heedful about detailing the research design, application procedures, methods of implementation and analysis, providing enough time for data collection, allowing an external reviewer to review the researcher's field observations, and finally applying the tool of the study on an exploratory sample.

Ethics: For ethical purposes, the researcher was careful about securing approvals of participating students, their guardians, and school management, besides the support of math teacher to allow her to attend classes and apply observation tools. The researcher was also careful about the confidentiality of participants' information. She was also cautious about the secrecy of students' identities and schools because the gifted were few and easily recognizable.

Mechanism of analyzing data

The researcher adopted the objective analysis method, the most commonly used for analyzing interview data (Braun & Clarke, 2006). The analysis followed the following steps presented in Table (4).

Table (4): Steps of analyzing interview data

Analysis steps	Procedures
Identifying data	Data were copied, read, reread, and initial ideas were written down.
Generating initial codes	Certain exciting qualities of the data were systematically coded in data sets. Relevant data were also organized.
Themes' revision	Verifying if themes of the coded sets were functioning, drawing a map for theme analysis, and constantly improving theme details.
Identification and naming	We are examining the totality of the analysis, creating identifications, naming topics, final analysis, and selecting a complete outline.
Report writing	Final analysis of the research question relating it to relevant literature and writing a scientific analytical report.

Result analysis and discussion.

The results of each question will be presented and discussed following the data collected.

Results pertaining to the first question: what is the reality of gifted students' personal learning environment?

Students learning personal environment was classified into two axes; one focuses on the students and the other on the teacher. The student's tools include the following:

1- Information management and regulation tools: This helps build a cognitive content and learning environment that searches for information through different sources. Besides saving and organizing information, the foremost sources are Web research drive, YouTube, and scientific journals.

2- Communication tools: These include the applications the student uses to exchange experience and information with others; they include Telegram, Twitter, and Snapchat.

With regard to the teacher, the tools include:

3-   Education strategies and activities: The teacher provides these activities and strategies to support students' learning environment.

4-   Competitions and Olympiads: These include outside activities such as Olympiads, competitions, and exhibits, where the teacher supports the students by involving them in scientific research competitions and providing cognitive and moral support.

Personal qualities and learning environment for every sample student were written down. The researcher provides two examples of two mental-map figures for two study sample students, including the most important tools and strategies the two students apply to the topics obtained from data analysis. The personal qualities and learning environment of the student Taghreed are taken as an example of the study sample:
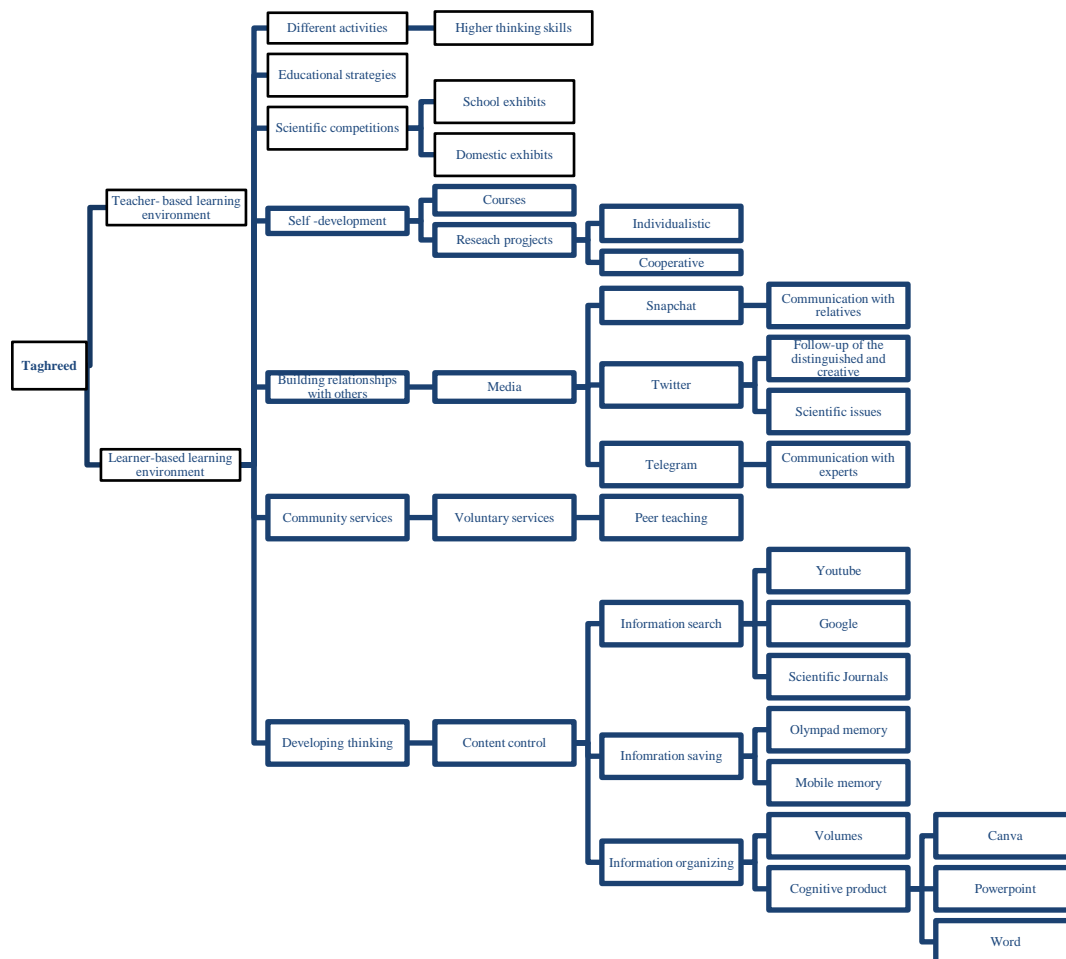

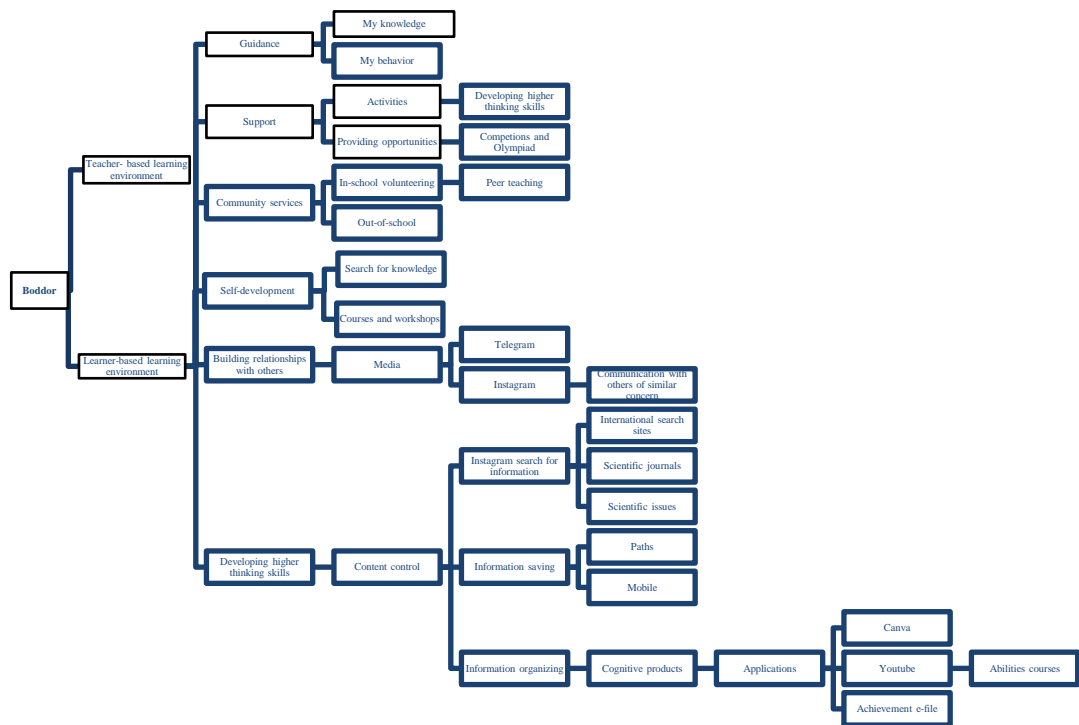
Figure: (1) Taghreed's personal learning environment

Figure: (2) Bodoor's personal learning environment

The following is the personal description of the student Taghreed and her personal environment.

1-   Description of the student's personality:

Taghreed is a student in the first secondary class who passed the giftedness scale. She was loved by teachers and colleagues, with an attractive personality, self-confidence, and cooperation. She helps students with low academic achievement and is distinguished for intelligence and prompt response to perform activities and exercises.

2-   The student's personal learning environment:

Based on the information elicited from the observation card and interview, the following figure presents the results of theme analysis in the form of a mental map by which the student's personal learning environment can be noted. She is distinguished for good digital competence. Her tools can be classified into two types, one related to the teacher and the others to the student herself. With regard to the student, she enjoys high digital competence. She has her own technical devices, such as IPAD and Mobile. Based on the skills she owns, she focused on several themes, the foremost of them were:

1-   Tools for managing and organizing information

The foremost of these tools are search drives on the web, YouTube, scientific journals, and information saving and organizing. The student saves information in personal files on her IPAD. She also uses several applications like Canva, PowerPoint, and Word to organize educational content.

2-   Communication tools: These include Telegram, Twitter, and Snapchat, which the student uses to build relationships with others for different purposes. Through the

Telegram application, Taghreed raises her academic level by attending courses and workshops, besides communicating with experts. She uses Twitter to follow up on the achievements of the gifted and creative, while she uses Snapchat to communicate with relatives. She says, "We communicate with teachers through Telegram but with friends through different media." The student uses the IPAD for school only. This is on the prosomal level. As for Taghreed's relationships with teachers and colleagues, she studies in a school whose classrooms are equipped with projectors and computers, in addition to a reference room, library, and Internet, which the students use under the supervision of a librarian and the teacher. The school also has good science labs (biology, chemistry, and physics). The students of Taghreed's class, with whom she has a good relationship, amount to (30). Her colleagues and her teachers encourage her to develop research and creative thinking skills, as she gets special attention from the coordinator of the gifted in the school.

3-   Education activities and strategies: In this respect, the teacher provides activities that develop cognitive and higher thinking skills and encourage student research and social discussion.

4-   Competitions and Olympiads: The teacher supports the student by giving her a chance to participate in scientific research competitions, Olympic exhibits, and cognitive and moral support. Taghreed added that teachers play an important role in moral and academic support. They guide students in using educational applications such as English language development programs and methods of developing personal skills and providing new important ideas.

Based on the preceding results, one finds that gifted students enjoy skills and digital competency through which a personal learning environment can be built. This aligns with what the study by (kaminska, 2019) came up with regarding the presence of positive trends to use the personal learning environment in developing the skills of producing digital learning elements.

It is also made clear that the personal environment that the students build is closer to the model of a guided personal learning environment (Skaikh & Khajo, 2015). This is a result of the teacher's role in supporting and guiding the gifted through strategy applications and activities that reinforce higher thinking skills essential for developing concerns for others in the three C's model that correlate to the learning strategies that support positive conduct.

Results pertaining to the second question:

The question reads, "What strategies do the students practice to build a personal learning environment to develop concern for others?"

Through the data collected by the researcher via observation and interview regarding the issue of concern for others, she concluded that the most important strategies practiced by the gifted students were four themes as follows:

1-   Building relationships with others: These include the media the student uses to build relationships with other learners exchanging among themselves experiences and activities they practice in the classroom.

2-   Developing thinking higher skills: These include the activities and exercises the student practice to develop these skills, such as creative thinking, problem-solving, and metacognition, which will be an introduction to the student's self-building.

3-   Community services and activities: These include the student's voluntary actions and services to the community, which include works that benefit society through technology and the tools used in a personal learning environment.

4-　　　Concern for self-identity: This includes whatever consolidates students' self-identity and develops self-awareness that enhances aspects of power in her through the tools she uses in the personal learning environment and responds to her queries.

Table (5): Groups and the corresponding axis

Group	The corresponding axis
Building relationships with others	Positive social conduct
Developing higher thinking skills	Empathy
Community services and activities	Compassion
Self-identify concern	Positive social conduct

The following explains the group's built-in light of axes of concern for others as stated in the three C's model. The purpose was to identify the essential strategies and practices which helped gifted students enhance them in the personal learning environment with evidence on each axis as follows:

First axis: Empathy

Table (6): Outlines students' results pertaining to this axis.

		Taghreed	Khawleh	Noura	Bodoor	Bayan
Skills adopting perspective strategies	Role-playing	Plays the role of a young teacher for her colleagues.	Plays the role of a young teacher in teaching peers.	Plays the role of a young teacher for children.	Shares in activities and plays a leading role.	Plays the role of a young teacher by explaining some lesson paragraphs
	Visualizing or storytelling	Applies visualization strategy while exercising	Uses visualization strategy while exercising	Uses visualization strategies while exercising	Applies visualization strategies while exercising.	Applies visualization strategy while exercising.
Strategies focusing on curricula	Discussion groups	Discusses with colleagues solutions for exercises. She communicates with other learners through modern media.	Raises discussions with colleagues during cooperative learning. She communicates with other learners and experts.	Raises discussions with colleagues during cooperative learning and communicates with others via modern media.	Raises discussions with colleagues on syllabi and extracurricular activities. She needs more contacts outside school.	Raises discussion with colleagues on syllabi and needs more contact in modern media.
	Uses Teaching aids.	Uses pictures, audio materials, and educational videos only in lesson preparation and educational activities	Uses pictures, audio materials, and educational videos.	Uses images, audio material, and educational videos.	Uses pictures, audio materials, and educational videos.	Uses pictures, audio materials, and educational videos.
Strategies focusing on training	Expresses empathy skillfully.	Listens to teacher and colleagues responsively	Focuses on teachers' explanations and colleagues	Calm, attentive, and interactive.	Listens carefully to the teacher and is	Speaks little, listens to colleagues, and responds quickly

		regarding (proctoring, listening, and motivation-based methods).	and solves exercises quickly.		enthusiastic about problem-solving	to activities.

In light of the data collected from the observation card, it was clear that the strategies that were primarily achieved in education were: students' application of discussion groups and activity-based learning, which the teacher encouraged. The teacher gave exercises that arose discussion and thinking to her students. In a class attended by the researcher for a math teacher, she focused on the three gifted students (Taghreed, Khawleh, Noura). The teacher presented the following exercise:
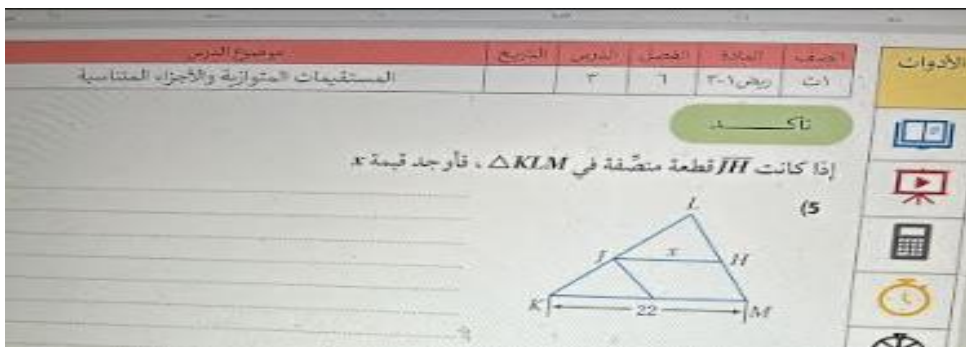

The students interacted actively with the activity: Khawleh and Taghreed discussed with group members, while Noura listened attentively. She was chosen to do the exercise, which she did reluctantly after some thinking. Few students participated in group projects. For example, Taghreed mentioned that she and Kholoud participated in a creativity fair with two projects, and Noura participated in the first. All were interested in scientific research.

The study also carried out the strategy of imagination through the activities given by the teacher. As for the role-playing strategy, the students mentioned that they played the role of the young teacher who used visual and aural aids in addition to the videos they got from the internet. It was noted that the teacher catalyzed most of the skills practiced by students. With regard to the strategies the student created for herself in the personal learning environment, it was found that the gifted students focused on the curricula–based strategies more than those of the perspective like role-playing and writing fictitious stories. The student, Taghreed, says, "I teach my colleagues" This implies peer teaching. The students benefited from YouTube videos to help them prepare their lessons and explain the information.

The student Khawleh commented, "I reiterate what Taghreed said," but I added new things like research sites and Egyptian scientific journals. "Noura almost said the same: we benefit from pictures and YouTube."

As for the strategies related to the adoption of the perspective, they focused on the achievements of the others, which were not realized for all students practicing the imagination strategy that was based on exercises given by the teacher, except for role-playing, which all students did.

As for observing Bodoor, it was done by attending a math class in which the teacher started with a question based on brainstorming, and that reflected training the teacher on higher thinking skills that developed empathy. The following picture illustrates the activity:
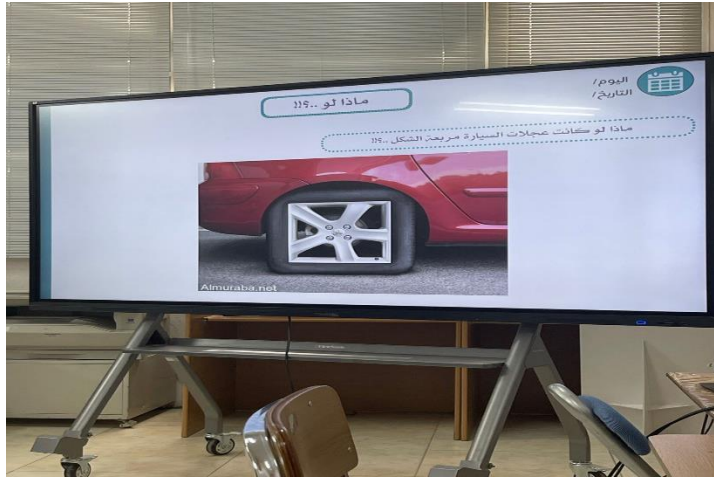
Bodoor also played the role of a young teacher and was active in workshops like the "self-development workshop." As for the student Bayan who was observed and interviewed via "Teams" due to the difficulty of arranging for a face-to-face meeting, it was noted that she practiced role-playing like others.

Through the observation and interviews conducted, the researcher noted that students' learning environment focused on strategies of curricula presented in discussion groups and activity-based learning, which the teacher created in the classroom. The student applied such strategies in the personal learning environment to school classrooms and outside school in role-playing. But the implementation of imagination and story-writing strategies was deficient, except for the student Bayan who mentioned that she wrote stories and was fond of reading. Such a thing revealed that there were differences with regard to practicing imagination strategies that depended on the activities the teacher provided them with.

The strategies of empath training were clearer in the observation card, which agreed with (Jumaat & Termidi, 2022), who pointed out that empathy could be easily noted in traditional classes. It was also noted that the gifted students mastered the skills of observation, listening, and responding. The skill of responding was for Noura less due to being shy and calm.

The students benefitted much from aural and visual aids besides entertainment sources like YouTube. The percentage of that benefit for the study sample was (75.3). The best benefit was demonstrated in explanations of educational materials presented to Saudi students of the secondary level in Mecca (lluzada, et al., 2021).

Based on the results the researcher came up with regarding developing higher thinking skills, she found that results were supportive of the empathy axis. The teacher's role was clear regarding offering a variety of strategies such as imagination, training on listening, and control through activities and discussions with colleagues. In addition, students practicing personal learning environment strategies developed higher thinking skills, eventually creating empathy. The gifted students still needed to develop imagination skills to practice it by themselves and shun what the teacher offered. Therefore, the family needed to provide and train their children on the imagination skill in childhood, which catalyzes them to achieve their goals.

Second axis

Table (7): Summary of gifted students' results pertaining empathy building

Interventions of compassion build up	Implicit skills	Taghreed	Khawleh	Noura	Bodoor	Bayan
Self-compassion	Contemplation	Ideas are the source of inspiration for her.	Practices contemplation. She inspires research ideas that she tackles.	Cares for contemplation.	Applies that completely to inspire her with ideas.	Cares for contemplation.
Strategies that focus on curricula	Writing diaries	Doesn't care about writing diaries but keeps her works in an achievement electronic file.	Cares about writing her memoir, which she keeps in an electronic file.	Doesn't care about writing her diaries.	Doesn't care about writing her diary.	Doesn't prefer to write her diary.
	Empathy for others	She is interested in scientific problems and shares in research to solve some environmental problems. She volunteers to teach peers in school.	She voluntarily teaches her peers. She also has external activities like organizing national day activities.	Shares the group in voluntary work by teaching English to children.	She has voluntary work as workshops she holds in and outside school.	Has external voluntary important acts in the field of Health.

The preceding table showed how the interests of the gifted students varied in some self-empathy strategies, notably doing homework and daily writing. Taghreed pointed out that she had an electronic achievement file to save her works in, "even the C.V, I save in a file," she said; Khawleh pointed out that she cared for writing her diary; but Noura mentioned that she was interested in

Saving her achievements in a file but didn't care to write her diary. Bayan also indicated that she didn't prefer to write down her diary. The strategy of contemplation was different for all.

As for empathy for others, students' views regarding the method of doing voluntary work varied except for that in school, which was common to all. That might be due to imposing voluntary hours as a modern criterion for evaluation of the secondary level. Noura, for example, says, "In school, I explain things to my colleagues." She adds I help organize things in the park on National Day; I also organize students in class and teach peers."

With regard to community service, it also varied between those who had and those who didn't have work in this field, as seen in focusing on scientific and social issues. Some announced that they were attracted to scientific issues more, which was why they preferred to research to find answers to the phenomenon of global warming, for example. Taghreed says, "Social issues rarely attract me; what attracts me is mostly environmental." such a comment reflects gifted students' love to discover the world around them, a cognitive aspect of such students (Jarwan, 2012).

As for voluntary acts, they were limited to teaching peers in school at the expense of concern with social issues that affect the emotional side of students. With regard to students with special needs, the focus was more on cognitive issues (Jiang Koo, 2020). It was unclear whether such students were concerned with helping a certain group of students or just wanted to be distinguished. (Sternberg, 2017) says, "We want gifted people who love to solve problems other than enhance their position."

Based on the given, the results the researcher elicited concerning voluntary services agreed with students' axis of compassion. But still, the acts need to be developed and guided by teachers and advisors to utilize the personal learning environment to serve the community. This is what the three C's model assures. Students should be advised to care for social and voluntary services outside school by utilizing the teaching devices present in their personal environment to serve the community. The teacher can here encourage the student to harness her talents not only to serve her personal interests but also the interests of the surrounding community.

Third axis: positive social conduct

Table (8): Outlines the most important strategies practiced by students on axis of the positive social conduct

	Skills involved	Taghreed	Khawleh	Noura	Bodoor	Bayan
Education strategies	Awareness of social values	Does not have any awareness loved of social values	Does not have any awareness of social values	Does not have any awareness of social values	Has school broadcasting and school activities	Has awareness in the field of social values
	Skills of communication with others	Love by colleagues and teachers, able to attractively communicate with colleagues, and has connections with learners and experts on modern media.	Calm has strong and good connections with teachers and colleagues. She creates contacts with other experts and learners via media.	Calm, speaks little, has limited connections with close friends, is loved by teachers, has limited connections with media.	Sociable, able to build good relations with teachers and friends, has limited connection with media	Calm, her relations are limited to colleagues and teachers with no connections outside school.
	Production of works and plans to help others.	The most important plans are research projects she gave to the Olympiad fair.	The most important plans are research she gave to the Olympiad fair	The most important plans are research projects she gave to the Olympiad fair	Has plans to help others, like creating a volunteer team to create workshops.	Makes work like volunteering in the health field and giving educational lessons.
	Thinking over positive videos	All benefit from positive clips on the web, contemplate over details taking educational advantage.				
	Searching for answers to identity questions.	Confirms the role of technology in satisfying curiosity and self-enhancement.	Confirms the role technology plays in facilitating her projects and answering	Confirms the role media plays in raising the level of academic achievement.	Cares about self-development, searches for strategies that enhance self-confidence,	Finds the knowledge she needs via search drive.

			what she needs to know.		and finds answers on the web.	
Conduct strategies	Group activity	Practices explanations in the presence of her colleagues and via media.	Practices explanation in the presence of her colleagues through peer teaching.	Confirms the role of media in raising the level of academic achievement.	Sociable, participate in school and out-of-school discussions.	Shares colleagues in voluntary and group activities.
Cognitive strategies	Cognition based strategies	Adopts strategies based on cognition, like problem-solving. She starts research projects.	Adopts strategies based on cognition like scientific research.	Adopts strategies based on cognition like scientific research and problem-solving.	Adopts strategies based on cognition like competition and scientific research.	Adopts strategies based on cognition like research and problem-solving.

The preceding table shows that there were differences among gifted students regarding the strategies that develop positive social conduct. With regard to practicing awareness of social values, none of the students did anything in the field except for Bodoor, who was distinguished for school activities like workshops and school broadcasting.

As for communicating with others, all gifted students had different means of communication with others which they used for different purposes. For example, Taghreed says, "I communicate with teachers via Telegram and via Teams with students." She has no Facebook but uses Instagram for entertainment.

Khawleh says, "I communicate with a friend via Instagram, which she loves to use like me." Noura's comment was different. She says, "I don't communicate with anyone via social media." Bodoor says, "I mostly use Snapchat and Instagram informally, but I know a student who uses e-mail to communicate with teachers formally." Bayan pointed out that she didn't use any means of social media for communication.

With regard to students' application of the researcher's strategies on queries about developing self-identity through a personal learning environment, the students found what satisfied their curiosity. Attending workshops and taking courses also help reinforce self-confidence. Taghreed, for example, says, "I save e-books and use them in research instead of buying them." Khawleh commented, "There was a YouTuber who usually downloads things which I benefit from."

They also varied regarding product strategies and plans for helping others. But the foremost among them were projects and research works they shared with Olympiad fairs. Taghreed says, "I am interested in design and models; I have an idea which I turned into a model." Bodoor says, "I am interested in dealing with problems like students' frequent absence from school."

As for conduct strategies, they were reinforced by students' practice of group activities, especially explanations. Regarding cognitive strategy, students' participation also varied. Taghreed, for example, says, "The problem I often search for is notable ones like global warming, besides scientific issues."

With regard to strategies of contemplation, they were common and shared by all. Taghreed, for example, says, "These strategies generate ideas."

Based on the preceding discussions, the researcher elicited that building relations with others cope with the axis of positive conduct. The foremost among them was communicating with others, which agrees with the axis of positive behavior. Such results agree with those of (Tiang Koo, 2020; Agusintadewi et al., 2020), which indicated that students of the millennium prefer to use social media as education platforms. Especially wherever they want to complete their tasks more creatively and excitingly. The study of (Abdul Rahman & Mohammed, 2020) confirmed that social media plays a role in improving communication skills and consolidating partnerships, social obligation, and achieving participative learning. The results also showed that the responses of two students were negative regarding building connections via media, although they have accounts that might be helpful. Such a thing might be attributed to personal factors in the family environment.

As for the strategies related to self and search for identity were common to all, as most of the students confirmed obtaining what meets their cognitive and psychological needs. The study of (Sukenti et al., 2020) pointed out that personal learning models might significantly develop students' confidence in themselves. It was noted that the gifted students practiced different strategies which developed a concern for others through their personal learning environments at all axes (empathy building, compassion, and positive conduct), which the researcher came up with via observation and interview.

The results also revealed that the defective strategy in practice was empathy with others. Family and school might have played a role in encouraging gifted students to serve the community and participate in the field, creating emotional feelings toward the community and concern for others. According to cognitive psychology, individuals who are distinguished for cognitive methods that might influence artificial intelligence, the foremost of which are delay and rush. The study by (Malki & Ali, 2019) proved that there was a correlation between some cognitive methods and artificial intelligence. It also revealed that intelligence. It also revealed that there was a deficiency in students' practice of activities based on positive social awareness. The study by (Najjar & Sayyed, 2011) indicated that training programs that are based on developing emotional intelligence improve the social competence of the gifted. Thus, we find that the personal learning environment of the gifted is fertile because, through it, the students can practice many strategies that develop their cognitive, emotional, and social aspects. Among such strategies is the circle of concern for others that the three C's model focuses on. Some circles of concern for others were more apparent than those strategies associated with empathy, like community service, voluntary acts, and fieldwork. Though these circles were common to all, they needed to be developed. The strategies for building positive conduct, the foremost of which was activities based on social awareness, also required to be developed. Due to all that, students must be provided with the skills that grow in them, the concern for others. (Chawkase & Watve, 2022) Pointed out that the essence of the vision of teaching transformational gifted students is self-broadening to merge it with family, community, humanity, and nature. Therefore, the modern concepts of teaching the gifted focus on securing strategies, activities, guidance, and support that help the students acquire the skills necessary for developing concern for others, especially those that are associated with developing empathy and positive social conduct.

Thus, training programs that develop emotional intelligence and increase social competence are needed. (Najjar & Sayyed, 2011) revealed that the training programs based on developing emotional intelligence improved social competence in the gifted.

Recommendations

In light of the study findings, the researcher would like to recommend the following:

- To support a personal learning environment through the guidance of the teacher, who needs to gear students to the tools that reinforce positive conduct.

- To provide students with enrichment programs that are based on developing emotional and social intelligence to consolidate concern for others.

- To create websites to help students build a personal learning environment aided with applications and tools that reinforce compassion and positive conduct.

- To hold training workshops for the gifted students to guide them to the strategies and tools that develop concern for others.

- To conduct more studies on modern concepts of giftedness by using the mixed approach to get more accurate results.

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