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Contextual Learning as a Catalyst for Enhancing Intrinsic Motivation in Secondary School Students

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This qualitative study investigates the influence of contextual learning on secondary school students' intrinsic motivation to learn. It is grounded in the interpretivist paradigm and uses a phenomenological research design. The aim was to understand how collaborative learning, self-reflection, and engagement with real-world scenarios impact students' internal desire to learn. Data were collected through in-depth interviews with secondary school students of Baluchistan, province of Pakistan. Data were analyzed thematically. The findings suggest that contextual learning is a powerful motivator. It fosters a sense of competence, personal satisfaction, and curiosity, which are the key drivers of intrinsic motivation. The study concludes that the more relevant the educational content is to students' lives and the more active participation they have in the learning experience, the more engaged and motivated they will be. A model of contextual learning that significantly enhances authentic motivation in adolescents is described.

1. Introduction

One of the contemporary teaching and learning methods is context-based learning. Gilbert et al. (2016) explained that the term context grammatically means two or more semantic units that give coherence, connection, and relationship to what is being said. Thus, context is what gives real and understandable meaning to new ideas because it makes them relevant in a variety of ways. The contextual theory of teaching and learning states that when learners acquire new information or knowledge, they relate it to what they already know. If the new knowledge is connected to their personal and pedagogical practices, it is easy for them to understand it and retain its long-term. This is contextualization, and it is how the mind naturally works anyway (Gilbert, 2020).

Lye et al. (2021) executed a study that was focused on collecting teachers' opinions about knowledge retention and task value in science when using context-based instruction. The study's analyzed interview data indicated that students assign greater importance to the science tasks they are given when that task follows the teaching intervention associated with the study. (Leyton Román et al., 2019) implied that effective interactions within the learning environment could only occur when students are sufficiently encouraged to do the task they have been given to perfection. Tasks are to be appreciated when they fulfill the challenge-hunger the student has, and when the feedback given is relevant.

Lestari et al. (2021) asserted that for learners to become scientifically literate, they must first comprehend the context of the content they are being taught. Only then can they act and think correctly on scientific problems. When teachers make learning materials significant by giving concrete, everyday life examples and making real-life implications of the science content they are teaching, then students are practically enacting the theory (Tariq & Saeed, 2021). Pande and Bharathi (2020) states that when teachers contextualize the science content, science students understand that content more comfortably. This act of understanding boosts motivation. Teachers lead students to see relevance between science and their lives; they help students realize the meaningfulness of learning scientific content that has been expected to make the knowledge more effective and more memorable. According to (Taasoobshirazi & Carr, 2008) the teaching learning process is more powerful when students see its relevance and its significant connection with their lives.

Although contextual learning has been identified as a highly effective way to boost student engagement and retention of knowledge by connecting academic content with real-world experiences, it isn't yet fulfilling its promise for enhancing intrinsic motivation in many educational settings. The kind of motivation that is based on internal drives like genuine curiosity or the satisfying achievement of personal goals is absolutely crucial for the kind of deep learning that sticks around for the long pull. And so, it is terrible that educational systems are often so entrenched in traditional teaching methods that they rarely depart from the kind of abstract, conceptually thin stuff that many students can't make sense of in practical terms.

1.1 Research Questions

1. How does collaborative learning in real-world projects influence secondary school students' intrinsic motivation?

2. In what ways does promoting self-reflection and metacognitive skills impact secondary school students' intrinsic motivation?
3. How does a learning environment centered on internal rewards (e.g., curiosity, interest, personal satisfaction) affect secondary school students' intrinsic motivation?
4. How do real-world contextual learning activities contribute to students' sense of competence and achievement?
5. How can contextual learning stimulate students' curiosity and promote self-driven inquiry?

2. The Literature Review

Contextual teaching is a strategy that help students who learn best when new material is linked to their prior awareness and practices. This method is based on research from the field of neuroscience that indicates learning happens more effectively when students connect fresh knowledge to authentic contexts. The relevance of what is being learned to students' lives increases the engagement and motivation of many students. The many methods that might be used from simple case studies to complex simulations that might make up a contextual teaching system. Through this educational system the teaching learning environment may increase intrinsic motivation which will result in high academic achievement of students (Solórzano-García et al., 2022).

When educators employ the method of contextual teaching, they are not just imparting information to learners. They are, instead, acting as a kind of guide, helping students navigate through a somewhat overwhelming overflow of data and details that life in the 21st century overwhelms us with (Li et al., 2021). Teachers accomplish this achievement in two principal ways; first by using relatable, practical examples from the real world when elucidating a point, and secondly, by making the new information they're trying to get students to understand relevant to the students' own lives and to the lives they'd lead after they graduate from school (Zou et al., 2024).

Self-Determination Theory (Ryan & Deci, 2024) is one of the most widely cited contemporary theories of intrinsic motivation. According to this theory, conditions that foster a sense of competence, relatedness, and autonomy are the ones that can enhance intrinsic motivation. The need for competence can be satisfied by tasks or objects that are challenging because students can only display competence when they tackle problems that are hard enough to make them feel they've achieved something significant. Similarly, the need for relatedness can be satisfied only when the knowledge students are acquiring has genuine relevance to their lives and the world around them. Finally, the attribute of autonomy is linked to the idea that learning will be internalized only when the learner feels he or she has freely chosen to pursue the knowledge

This is also one of the important components of contextual teaching when integrated with motivational activities. Relatedness can be defined as the desire to feel connected and accepted by significant others in one's life (Ryan & Deci, 2024). Real contact with the environment and with professionals allows the experience of relatedness that plays a crucial role in attaining the internalization of valuable targets. This is fundamental to connecting individuals with really becoming a part of the society in which they live and, more primarily, with identifying and imitating the applications of the science subject in the actual world (Heinle et al., 2022). A high level of interest is needed by students to endure and to stimulate intrinsic motivation (Sansone & Tang, 2021).

Dispositional interest and situational interest are the two kinds of interests that they can secure (Schäfer & Habig). Tariq and Saeed (2021) conducted a research study that had as its focus the kind of instruction that is context-based and the effect of that kind of instruction on cognition and the interest of students. Two groups of students participated in the study. One group of students, the experimental group, was taught using an approach to teaching advanced chemistry that was based on context and that was constructed in a way that was similar to the Salters approach. The other group of students, the control group, was taught in a traditional manner. Interviews and surveys were used to collect the data; analysis of the data showed that students who experienced contextual teaching were more engaged and interested during activities than those who were not taught in this manner. The context taught students not only to memorize things but also to apply their knowledge in real-life situations. The study also found that students motivated through this method reported having a much easier time completing assignments. According to Reddy and Revathy (2024), there are five defining characteristics of the contextual approach to teaching: relating, experience, application, collaboration, and displacement. In the approach of contextual teaching and learning, it is made very clear that the students are the most important factors in the teaching/learning process. In this approach, the students work through discovery and problem-solving activities to develop the knowledge and experience that are prerequisite to deep understanding (Hudson & Whisler, 2007).

Constructivism emphasizes the construction of knowledge and based on the interaction of existing knowledge and new knowledge through experience (Bretz, 2001). According to (Fosnot, 2013) knowledge and learning are constructed by the students; this required assistance from their peers and adults in the form of scaffolding (Bada & Olusegun, 2015) stated that acculturation on students' critical thinking skills can be achieved through constructivism. The constructivists argue about the learning environment in the context of the rich environment. Knowledge and skills that are robust and meaningful use can be constructed through related to real life assignments (Steffe & Gale, 1995).

Learning philosophy emphasizes that learnings is not only about memorization. It is appropriated when students use their critical thinking and reasoning skills (Cobern, 2012). They will use not only memorizing but also reasoning and understanding in the construction of the scientific knowledge. They will submerged in problem solving and will be served by the curriculum with such conditions utilizing all dimensions of the higher order thinking skills

(HOTS) (Richardson, 2005). The project-based learning model has been on good track. It serves students to be submerged in meaningful conditions of learning. They will achieve/deep into obtaining understanding not in the single context but in multiple layers of contexts because they are served with units of problems that are meaningful, blend into different knowledge units that, they encounter and work with them into a single unit of knowledge (or part of knowledge). Knowledge is obtained, not in a passive way, but in an active way. Using this model, it can be equipped with by such needed strategy to enhance the curriculum towards equipping this way for the students (Hudson & Whisler, 2007).

Chen and Bennett (2012) conducted a study on learning in context. They found that students who learned in context who were placed in realistic situations where they had to apply their knowledge understood their chemistry concepts better and achieved higher test scores than students who were taught in a more traditional manner. Contextual learning refers to an age-old method of teaching students in a way that correlates to their lives and the world. It is very relevant and even more important nowadays when a lot of kids are zone-out and think school has nothing to do with their future. Contextual learning is the way to go in teaching today's generation. When a reason is found by students for learning something that is not in the classroom (like using divisibility rules to work out whether the solar panel on their apartment can accommodate a certain sun-dial design), it seems their chances of remembering it are all the better for that.

Murphy and Whitelegg (2006) also have asserted that when the contextual or humanistic approach is used to teach them with real-life materials to grasp science concepts, their motivation and retention of the science is enhanced. (Gutwill-Wise, 2001) worked in conjunction with university colleagues on an approach to teaching that emphasized the use of context in the teaching of introductory courses in chemistry. This work was then examined as to its efficacy in comparison with the traditional approach. The early outcome data indicated that students who "intellectually engaged with relevant context and made sense of chemical ideas in that context performed better and were more likely to continue with chemistry as a major" than those receiving what is now referred to as the "sage-on-the-stage" approach.

Current children's learning is better when it is natural. They learn to be more meaningful when they actually experience what they are learning. Mastery of the material has been proven to be successful in the short term, especially when there is competition involved, but it has failed to provide children with what they need to solve long-term problems in their lives. Contextual learning is learning that is linked by the teacher to real-world situations that students can relate to. Contextual learning is the concept that helps students make essential connections between what they know and how and where they apply it in their lives right now, as well as in the future. Contextual learning is what makes things more meaningful for students (Menthe & Parchmann, 2014).

CTL with a process of full involvement of students. Students find material being learned and relate it to real life situations. They are encouraged to apply it in their daily life. The CTL approach also has seven components or principles, namely; constructivism, finding, asking, learning communities, modeling, reflection, real assessment (Fechner, 2009). Four perspectives on defining contexts follow; context as the direct application of concepts; context as the reciprocity between concepts and applications; context as the personal mental activity that a learner performs; and context as the social circumstances in which the learner is situated. The context is constructed by an authentic situation from the real world in a learning task (Cloran, 1999).

This condition does not merely serve as a starting point for the generation of scientific concepts (Bennett et al., 2016); it also works to shape the complete learning process in a manner akin to storytelling (Nentwig et al., 2007). As per Güth and van Vorst (2024), developing from a similar definition, the authors created a framework to characterize contexts in chemistry education. For this work, a literature review was performed, and characteristics associated with contexts were extracted. One major finding was that authenticity positively affects student learning. Authenticity is a context characteristic that emerges from the interaction of context and students. We can use real-life experiences that students can relate to or unusual phenomena that do not or rarely occur in their everyday life to create authentic contexts that are familiar to learners Güth and van Vorst (2024).

The laboratory is likely the most authentic environment for practicing chemistry (Prins et al., 2016). CBL not only is potentially effective but also seems to be beneficial at a motivational level (Aydin-Ceran, 2021). The characteristics of various learners are better addressed when using diverse contexts, leading to enhanced transfer performance (Güth & van Vorst, 2023).

3. Methodology

3.1 Research Design

This research study was grounded in the interpretive philosophical paradigm and aimed to understand the lived experiences of secondary school students concerning contextual learning and its influence on their intrinsic motivation. The qualitative approach selected for this study used a phenomenological design that is best for gaining insights into the perceptions and meanings that individuals associate with their experiences. The participants in this study were secondary school students from the Balochistan province of Pakistan. They were chosen deliberately because they could furnish experiences that were relevant to and meaningful in the context of learning practices. The sample was right for the research aims and allowed the researcher to conduct focus group discussions that were in-depth and meaningful with the participants. Five focus group discussions were held with the participants to collect participant data. Each focus group contained 6-8 participants. The researcher performed a thematic analysis of the data.

4. Data Analysis

Five focus group discussions were held with secondary school students from Balochistan, and the data were analyzed using thematic analysis. This method was selected for its flexibility and effectiveness in identifying, analyzing, and reporting patterns within qualitative data. The analysis was guided by (Clarke & Braun, 2017) six-phase framework; (1) familiarization with the data. (2) generation of initial codes. (3) searching for themes. (4) reviewing themes. (5) defining and naming themes. (6) producing the final report. Each focus group discussion was audio-recorded and transcribed verbatim. The transcripts were carefully read multiple times to gain an in-depth understanding of the students' experiences and perspectives regarding contextual learning and intrinsic motivation. Coding was conducted manually, focusing on both semantic and latent content to uncover underlying meanings. Through an iterative process, codes were grouped into categories, which were then clustered into five overarching themes.

4.1 Theme 1: Collaborative learning as a Motivator

One of the dominant and persistent themes emerging from the discussions was the impact of collaborative learning. Students said that when they learned in groups, not only was it fun, but it also engendered in them feelings of support and accomplishment that helped them to learn. Especially when they were solving problems that had some tether to real life, and not just to the realm of the imaginary or theoretical, they felt more engaged with the task in hand. And they liked the engagement.

"When we work together on real-world problems, it feels like teamwork. I learn better and enjoy it more because we're helping each other," One student shared this. The theme indicates that group-based contextual learning fosters intrinsic motivation by creating a social learning environment. In this environment, students feel connected and valued. This is in line with Vygotsky's social constructivist view. Vygotsky's view emphasizes the role of social interaction in cognitive development.

4.2 Theme 2: The Power of Self-Reflection and Growth

Various students conveyed that the ability to think back on their learning journey heightened their self-assurance and the internal push they needed to succeed in school. They articulated that this practice of reflection not only made them understand better the strides they had made over time but also put them in a position to claim some ownership over the goals they set for themselves.

"*I didn't understand much at first, but now I see how far I've come*" commented another participant. This theme highlights motivation and metacognition. Self-assessment enables students to understand themselves at a much deeper level, not just because they are assessing what they know and what they need to learn, but also because they are engaging in a process that is fundamental to their understanding of the nature of learning itself.

4.3 Theme 3: Internal Rewards and Personal Satisfaction

The discussions with the focus groups illuminated that students felt more motivated by the satisfaction of fulfilling their own personal curiosities than they did by the prospect of earning a grade or receiving praise. They illuminated what is now a common understanding—that students find it enjoyable to learn when the content is both interesting and personally meaningful to them.

Understanding something useful is what makes me feel good. Not because of what kind of marks I get, but because I actually learned something.

The main idea expressed here is that intrinsic motivators are what really drive student engagement.

4.4 Theme 4: Building Competence through Real-World Contexts

Students repeatedly mentioned that applying knowledge to practical, real-life situations made them feel competent and confident. Activities such as budgeting, community surveys, or environmental projects were cited as meaningful and empowering.

"When we solve real problems, I feel like I'm smart and what I learn actually matters," explained a participant.

This sense of competence is a core psychological need according to (Ryan & Deci, 2024) Self-Determination Theory (SDT). The ability to connect classroom knowledge to real-life applications not only deepens understanding but also nurtures a sense of capability, reinforcing intrinsic motivation.

4.5 Theme 5: Curiosity-Driven Learning through Meaningful Scenarios

In the end, the information unearthed that pupils were much involved when instruction was integrated in significant and contextually pertinent situations. The employing of immediate instances, easy-to-relate scenarios, and engaging activities lit a fire of natural inquisitiveness within them.

A student shared: "*I like learning when it's about things I see around me. It makes me want to know more; it's like discovering something new*."

This theme stresses how critical it is to create learning environments that excite curiosity and are personally meaningful. Contextual learning takes place when the student is "in the zone" of proximal development (Vygotsky, 1978). This means that the student is working on tasks that are just beyond his or her current competencies but are achievable with the help of a teacher, peer, or suitable learning resource. Curiosity-driven tasks push students into this zone.

4.5 Conclusion of the Analysis

The focus group discussions were thematically analyzed to see how the students responded concerning contextual learning and to identify any factors that might influence their motivation to learn. These discussions provided the students with a chance to express themselves and allowed for some back-and-forth interaction between the researchers and the participants. The overall analysis of the groups provides a rich account of the students and their perspectives on learning.

4.6 Discussion

This study's findings powerful contextual learning has intrinsic. Engaging "real-life contexts," students were more enchanted, more enjoying, and more personally satisfied than in a traditional textbook instruction. This study suggests is that traditional instruction in Balochistan's textbooks may not be good enough and that students probably require more contextual and more experiential learning than is currently the case to meet their motivational and cognitive needs. A major theme that emerged was the beneficial effect of collaborative learning on student motivation. Students stated that working with peers on authentic tasks made it so much better, with much more sense to everything, because they were doing it with others. And together they were doing it with purpose. They were solving problems that mattered.

The importance of self-reflection in the learning process came out clearly from the study. The students stated that looking back at their academic progress always gave them a sense of pride and motivated them to keep on learning. This discovery has a solid backing from self-determination theory (Ryan & Deci, 2024), which highlights competence and autonomy as essential psychological forces that drive motivation. When students are offered a chance to keep track of their own progress and make decisions pertaining to their learning, they tend to feel much more ownership over that learning. In this investigation, the kind of ownership that the students felt had a direct relationship with their enthusiasm and persistence.

The data also showed that students were more engaged when the learning was embedded in meaningful and relevant contexts. Lessons that linked academic content to real-life situations like solving budgeting problems, addressing community issues, or being environmentally aware garnered students' interest and made them want to explore the topic more. This relevance made the learning feel purposeful and helped bridge the gap between the abstract concept and a concrete experience.

The significance of real-world application in learning also surfaced in the way students described their sense of competence. They often shared that applying knowledge to practical tasks made them feel capable, intelligent, and useful. These feelings of self-efficacy reinforced their belief in their ability to succeed and contributed to their willingness to invest more effort in learning. This supports the idea that contextual tasks are not only academically enriching but also psychologically empowering.

In addition, students showed a robust inclination toward learning that was driven by their own curiosity. They tended to be more likely to ask questions, look for novel information, and be engaged when the content concerned them in some way. In this respect, learning with context is a catalyst for inquiry, making students take responsibility for their own learning. This speaks to the importance of curiosity in trying to get students motivated to learn.

This study's findings suggest the key for promoting intrinsic motivation in secondary education is contextual learning. When educators integrate real-world problems, collaborative experiences, and opportunities for reflection into the curriculum, they create classrooms that are authentic, relevant, and—most importantly—empowering. The transition that needs to happen is from a more traditional, teacher-centered curriculum to a student-centered one that values students' voices, interests, and lived experiences. When these things are taken into consideration, the payoff is a much more motivated, engaged, and self-directed student.

5. Conclusion

This study shows how contextual learning impacts the motivation of secondary school students in an intrinsic manner. The comprehensive study of secondary school students in different schools explored the powerful effect that learning in context can have on a child. Contextual learning, simply put, is teaching that takes place in a child's world that is, in real-world settings, and in activities that make sense to the students and are meaningful to their lives.

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