Effective schools as open systems: understanding their key characteristics and role in bullying prevention

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ABSTRACT

This report examines the idea of school effectiveness by breaking it down into three key perspectives, starting from a general framework and progressing to more detailed aspects. It begins by viewing schools as open systems, emphasizing the significance of inputs, internal processes, and outputs. This systems-based perspective offers a foundational understanding of how schools function effectively. The report then draws on four major studies that identify essential features commonly found in high-performing schools. These features provide useful benchmarks for school leaders to evaluate their institutions. Lastly, the report investigates the link between school effectiveness and bullying, arguing that strategies to prevent bullying should be a fundamental component of how school performance is measured.

Keywords: school effectiveness, open system, key characteristics, bullying prevention.

Introduction

The concept of school effectiveness continues to attract significant attention among researchers, although a universally accepted definition remains elusive. Hoy and Miskel (2013) propose that examining schools through an open systems framework is a meaningful approach. In this model, schools are viewed in terms of inputs, internal processes, and resulting outputs. Breaking down each component individually allows educators and researchers to better assess a school's performance and overall effectiveness. According to Yiasemis (2005), schools that are deemed effective often exhibit certain identifiable features, and multiple studies have been carried out to investigate these attributes to improve school performance.

In addition, the issue of bullying poses a serious challenge to school effectiveness. It is typically described as intentional and repeated aggression that inflicts physical, psychological, and social harm on students, thereby interfering with both their well-being and academic success (Nakou, 2000).

This report will examine school effectiveness from three distinct angles. The first one introduces the open systems perspective to build a foundational understanding, the second one presents findings from four selected studies that identify the critical traits of effective schools, and the third one addresses the impact of bullying and argues for its inclusion as a

factor in evaluating school effectiveness today.

A. School Effectiveness from an Open Systems Perspective

Schools function as open systems, meaning their success can be analyzed through the stages of input, transformation, and output (Hoy & Miskel, 2013). Each stage plays a significant role in determining overall performance.

1. Inputs

A school's ability to deliver quality education largely depends on the resources available to it. Recruiting well-trained and experienced teachers, integrating modern technological tools, and creating a supportive learning environment all contribute to better outcomes (Hoy & Miskel, 2013). When schools face limited resources, compromises often have to be made, which may negatively affect performance (OECD, 2016; Leithwood et al., 2020). Nevertheless, the presence of strong inputs alone is not enough—without effective internal processes, the potential may not be realized. This leads to the importance of the transformation phase.

2. Transformation

Transformation refers to how resources and efforts are channeled into achieving educational outcomes (Lunenburg, 2010). This phase involves classroom teaching, school organizational structure, leadership, culture, and climate (Hoy & Miskel, 2013). When these elements function cohesively, they contribute significantly to improved school performance (Tarter & Hoy, 2004). Teachers and school leaders play vital roles in this phase. Teachers, especially, are central to this process as they interact directly with students—the most crucial input—and use available tools like technology to deliver comprehensive education, foster critical thinking, and instill proper values and conduct (Fullan, 2007; Darling-Hammond, 2000; Hattie, 2009; OECD, 2018). The next part discusses how outputs serve as indicators of effectiveness.

3. Outputs

School outputs represent its goals and the degree to which they are achieved. These goals are often multifaceted and sometimes conflict with each other (Hall, 2002). When the intended outcomes are met, they serve as strong evidence of effectiveness (Scheerens, 2015; Creemers & Kyriakides, 2008). Outputs vary by stakeholder group—for students, they include academic performance, self-esteem, and retention rates; for teachers, they include job satisfaction and professional growth; and for parents, active and positive engagement with school staff is critical.

Although school performance is influenced by factors like curriculum quality and student involvement, many studies emphasize student academic performance as the most measurable output (Hoy & Miskel, 2013). Researchers such as Heck (2000) and Mortimore (1998) support using value-added models, which assess progress beyond initial student capabilities, as a more insightful measure of school success.

Research on school effectiveness has taken various approaches. For instance, Lee and Shute (2010) focused specifically on student academic achievement, while others, such as Mott (1972) and Quinn (2009), explored broader indicators. From these studies, several core characteristics of effective schools have been identified. The following section explores these features in detail.

B. Core Characteristics of Effective Schools

This section outlines several traits commonly associated with effective schools, based on findings from four notable studies. Although many studies have explored this topic, only a representative sample is discussed here.

One foundational study by Levine and Lezotte (1990) emphasized that characteristics of effective schools should be seen as necessary conditions, rather than guaranteed outcomes. They identified eleven critical traits observed in high-performing schools:

1. A strong and supportive school climate

2. Emphasis on student learning and academic success

3. Effective systems for monitoring student progress

4. Ongoing, practical professional development for teachers

5. Capable and committed school leadership

6. Active involvement of parents in the school community

7. Well-defined and effective teaching strategies

8. Clear academic expectations for students

9. A culture that builds students' self-confidence

10. Inclusive practices that respect cultural diversity

11. Transparent and fair student promotion policies

While this research primarily focused on classroom and school-level indicators, Cotton (1995) expanded this framework by categorizing effective school practices at three levels: classroom, school, and district. These broader categories encompass numerous elements that contribute to a school's overall performance.

Classroom	- Planning and learning goals
	- Classroom management and organisation
	- Instruction
	- Teacher-student interactions
	- Equity
	- Assessment
School	- Planning and learning goals
	- School management and organisation
	- Leadership and school improvement
	- Administrator-teacher-student interaction
	- Equity
	- Assessment
	- Special programs
	- Parent and community involvement
District	- Leadership and planning
	- District-school interactions
	- Curriculum
	- Assessment

Figure 1. Effective school practices according to Cotton (1995, pp. 7-9).

A significant study conducted by the National Commission on Education in the UK (1996) examined various factors contributing to the effectiveness of schools and outlined ten key attributes common to high-performing institutions:

1. Strong and inspirational leadership from school heads and senior management;

2. A supportive school culture shaped by shared principles and values, complemented by a clean, appealing physical environment;

3. A clear focus on high-quality teaching and meaningful learning experiences;

4. A consistent commitment to achieving academic excellence;

5. Robust and systematic strategies for assessing student learning and progress;

6. Student empowerment through the promotion of self-directed learning;

7. Active student involvement in school life and decision-making;

8. A reward system that acknowledges student efforts and encourages motivation;

9. Active parental participation aligned with the school's vision and mission;

10. A variety of extracurricular programs that expand students' interests, support personal growth, and enhance school-community relationships.

In another notable contribution, MacGilchrist, Myers, and Reed (1997) investigated how schools and classrooms improve performance. They introduced the concept of "intelligent schools" and identified nine core types of intelligence that such schools typically possess:

1. Contextual intelligence – understanding the school's position within a broader social and educational environment;

2. Strategic intelligence – using evidence and research-based insights for long-term planning;

3. Academic intelligence – focusing on consistent academic achievement;

4. Reflective intelligence – analyzing data and school performance to drive improvement;

5. Pedagogical intelligence – evolving as a learning organization with strong instructional practices;

6. Collegial intelligence – fostering collaboration among staff and stakeholders;

7. Emotional intelligence – developing the capacity to manage emotions and build positive relationships;

8. Spiritual intelligence – promoting inclusivity and valuing each member's contribution to the school community;

9. Ethical intelligence – clearly communicating and upholding the school's mission and moral values.

Other foundational works, such as that by Sammons et al. (1995), have also outlined numerous characteristics associated with effective schools. However, in recent years, research has shifted toward more targeted themes—particularly the importance of creating safe, inclusive environments by addressing student bullying (Kyriakides & Creemers, 2013). The following section explores this pressing issue.

C. The Role of Bullying in Determining School Effectiveness

Olweus (1993, p. 48) defines bullying as an intentional and aggressive behavior that is repeated over time and directed at an individual who struggles to defend themselves. Bullying can take many forms, including verbal abuse (e.g., insults, threats), physical violence (e.g., hitting), and social exclusion or manipulation (e.g., spreading rumors) (Menesini & Salmivalli, 2017). Extensive research has shown that bullying significantly affects the physical and emotional health of children, with both immediate and lasting consequences (Ttofi & Farrington, 2008). Furthermore, bullying can limit students' educational opportunities and negatively impact academic performance (Nakou, 2000).

To mitigate the harmful effects of bullying, numerous intervention programs have been developed and implemented across educational settings. According to Farrington and Ttofi (2009), such initiatives typically reduce instances of bullying and victimization by approximately 20%. However, the level of success often varies depending on how consistently and thoroughly these programs are applied within schools. Some institutions show greater commitment, delivering the interventions with more intensity. Research highlights that maintaining the integrity of the program—by adhering closely to its original design—yields better results in minimizing bullying behaviors (Haataja et al., 2014).

For a school to be genuinely effective, minimizing bullying should be an integral objective. As demonstrated in Section B, key elements such as fostering a supportive culture (Levine & Lezotte, 1990), promoting fairness (Cotton, 1995), cultivating shared values (National Commission on Education, 1996), and encouraging emotional and ethical awareness (MacGilchrist et al., 1997) all indirectly relate to anti-bullying efforts.

From the author's standpoint, modern definitions of school effectiveness should explicitly incorporate bullying prevention. Schools can no longer be seen as effective if they do not also provide a secure and nurturing environment. Educators must empower students to understand the severity of bullying and its psychological and social effects—not only to avoid it themselves but also to actively challenge such behaviors when witnessed.

The recent global discourse surrounding Netflix's series *"Adolescence"* (The Telegraph, 2025) illustrates how bullying has taken on new dimensions in the digital age. With social media facilitating constant peer interaction, the impact of bullying is no longer confined to school hours or physical spaces. This development reinforces the urgency for schools to offer ongoing education and dialogue about bullying, rather than limiting awareness to a single event or campaign each year. The academic community must now treat bullying prevention as a core component of school effectiveness, rather than an optional or peripheral concern.

Conclusion

This essay has critically examined the multifaceted concept of school effectiveness. By utilizing the open systems model—evaluating educational institutions through the lenses of input, transformation, and output—it becomes evident that assessing school performance involves a wide range of interacting components. Each element contributes uniquely to the

overall functioning and success of a school.

We also explored the defining features of effective schools, drawing from four landmark studies that offer comprehensive benchmarks for both academic and organizational success. These features serve as essential tools for stakeholders seeking to understand or improve school quality.

Finally, the discussion highlighted the significant impact of bullying on school environments. Beyond academic outcomes, schools must prioritize emotional well-being and social safety. As such, the prevention of bullying should be elevated to a formal criterion for school effectiveness. By promoting a safe, respectful, and inclusive atmosphere, schools can support not just intellectual growth, but also the personal development and well-being of every student.

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