

# International Journal of Institutional Leadership, Policy and Management Volume 2, Issue 1, pp. 198-208. 2020



ISSN: 2735-9220 www.ijilpm.com.ng

# ORGANIZATIONAL INVESTIGATION FOR INFORMED DECISION MAKING IN SECONDARY SCHOOLS

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#### **ABSTRACT**

The paper examined the importance of organizational investigation for informed decision making in secondary schools in Rivers State. The study was necessitated by the seemingly gap in the subject area and the circumstances in which school leaders make knowledgeable decisions. Informed decision making is key to the attainment of educational goals and as best approach to an effective and efficient leadership in the school organization. This paper discussed topics such as the process of fact finding rather than dwelling on speculations, scandals and conspiracy. Thus, investigation helps the school leaders to identify and resolve internal problems before they become widespread. Informed decisions are decisions based on facts that are valid. The ability of the school leader to manage these confronting problems sets him out as an effective and outstanding leader which in the long run leads to informed decision making. The paper suggested amongst others that clearly articulated and evidenced based information is critical to good judgements. Decisions should be aligned to organizational goals and objectives. It was concluded that school leaders should always investigate matters before taking decisions on them as hasty decisions affect the climate of the school negatively. This will not only improve the quality of decisions but will also influence the behaviour of the teachers positively and create a cooperative atmosphere where trust, equity, hard work, transparency and teamwork becomes the corporate culture giving room for the actualization of the laudable goals of education.

**Keywords:** Organizational Investigation, Informed Decision, Decision Making, Enquiry, Organizational Behaviour.

Reference to this paper should be made as follows:

Okpokiri, C. (2020). Organizational investigation for informed decision making in secondary schools. *International Journal of Institutional Leadership, Policy and Management*, 2(1), 198-208.

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# INTRODUCTION

Individuals throughout organizations use the information they gather to make a wide range of decisions. These decisions may affect the lives of others and change the course of an organization. Ololube (2019) defined organization as social units of people that are structured and managed to meet a need or to pursue collective goals of the organization. Clear and accurate information on a proposed investigation in the school organization can help the school administrator make an informed decision.

The successful conduct of an investigation is important to understand the factors around the incident and to guide a leader make informed decision for redress and contain the incident within the school environment. A full investigation refers to the careful search or examinations with an intention to discover facts which may include questioning of witnesses based on basic facts. Investigation is about fact finding about or concerning speculations, scandals, lies, bullying, conspiracy, indictment, set up, these are been confronted by the school administrator on daily basis. In as much as these problems confront the school administrator it is imperative for the school leader to make informed decision. The school administrator is under constant pressure to improve a serene and conducive environment for effective teaching and learning outcome by ensuring safety, security and over all well-being. This study aimed to investigate the school administrator and teachers opinion on the quality of decisions made by the leader (administrator) after investigation, challenges of informed decision making and possible suggestions.

An organization is an organized group of people with particular purpose, for meeting organizational goals. An investigation is a formal process to get facts and truth. An inquiry is a legal process by which a person or an organ of public administration has a duty to take a decision on a particular issue, conducts and investigation by himself to some other person, the responsibility for shifting the facts of the matter from mere opinion or speculation. An inquiry is a deep pain taking or investigation to discover something wrong or improper. Its main objectives are to find out the facts for guidance in taken administrative ultimate responsibility in decision taken in the light of the fact on ground. Investigation could also mean a conduct for fact finding into a specific matter, normally an investigation must have a term of reference.

Investigation is about fact finding speculations. In an organization there are bound to be speculations like retrenchment, query, rumour, sack of employee and suspension, bullying, conspiracy, indictment, set up, scandals are been confronted on daily basis by the school administrator. In as much as these problems confront the administrator (school), the school administrators need to take informed decision and fully get fact that will be able to make decisions that will be able to make decisions that are valid and not decisions based on speculations without facts.

In our day to day life, the school administration is saddled with nagging problems and challenges to contend with on daily basis, some of the problems the administrator faces may be social, psychological, economic and technological problems. Some of these problems may arise from rumour. However, the ability of the school administrator to manage these problems and challenges makes him an effective leader. Investigation is a necessary tool when members (teachers and students) filter in rumours from the external environment.

When an administrator gets into investigation, hidden facts like conspiracy, lies, rumours, scandals, can put things right for example, rumours of Boko Haram sect planning to launch an attack in a particular school in the northern Nigeria can throw the school into a disarray or plans by militants in the southern part of Nigeria to invade a school can lead to the closure of the school, or plans by a principal transfer some teachers could be mere speculations if the school administrator is not well informed will lead to hasty decisions and if there are hasty decisions without making due consultations and investigations there is every tendency for such administrator to make wrong decisions bearing in mind if wrong decisions are made it will definitely affect the way the goals of the organization are achieved. From the above questions emphasis will be placed on investigation and decision making.

Investigation is a process, a progression of activities or steps moving from evidence gathering task to information analysis, to theory development and validation to theory development and validation to forming reasonable ground to believe and finally to the arrest and charge of a suspect.

Investigation can help the organization identify and resolve internal problems before they become widespread. Workplace investigation is the process of researching an issue between the management and the employee. A full investigation refers to the careful search or examination with the intention to discover facts which may include questioning of witnesses.

In school organization, the place of an effective leader in decision making has emerged as a dynamic on-going challenge and in investigation. The role of the school administrator in decision making is critical, challenging, and complex in nature. Leadership in every organization is inclusive as well as influential and goal oriented, whose main focus should be centred on goal accomplishment, team building, success, and fulfilment of organizational goals. The success of every organization is determined by the quality decision made by the leaders which affects everyone in the organization, therefore the success and failure of any organization is placed on the shoulders of the leader. These decisions are the ones leading to significant commitment of resources, with significant impact on the firm as a whole and its long term performance (Marsh, Barwise, Thomas & Wenley, 1988).

Barret, Balloud and Weinstein (2005) explained leadership decision making as a process of using critical thinking skills to optimise a decision (p.214). Good leaders get involved his or her employees decision making and creating participatory atmosphere for all to make input (Tesluck et al., 1999; Wanous et al. 2000). Encouraging the employees to participate in decision making to worn concern is a process of information sharing (Labrera et al., 2003)

However, making the right or wrong decisions in the organization as a leader has dire consequences which may affect their subordinate either positively or negatively. Therefore, it is imperative to make correct decisions for the successful operations. It is more challenging to discover the best possible approach on how decisions are made and how it works in the school setting.

# **Purpose of this Paper**

The purpose of this paper is focussed on the best approach to understanding the leadership decision making process in the school organization. Unique and important decisions require conscious thinking, information gathering, and careful consideration of alternatives. A qualitative pattern was adopted which focussed on the indebt of knowledge, experience, skills and understanding of issues and challenges affecting the effectiveness, clarity, and success among school administrators.

# **BACKGROUND**

Every organization depend on sound leadership and if there are sound leadership it goes to explain the extent which the leader is able to make sound decisions from the point conception of an idea to the point of implementation.

As a leader or school administrator if sound decisions are not made, there will be a crash in educational programs these is evidence in the subsequent or previous scale in secondary educational system. Due to the complex nature of the school and the inter play or relationship with the host communities, there are bounds for the entry of false information, speculations in the educational setting. It is within the capacity of the school principal to make proper investigation to ensure speculations out plays speculations while facts plays as facts. And not withstanding if this speculations are made to filter into decision making there is every tendency the aims and objectives of education may not be achieved.

Therefore, it is the interest of the researcher to investigative such speculations and rumours. In the light of the above, a definitional analysis of decision making is important. What then is decision making?

Decision making is the process of selecting a right and effective course of action from multiple alternatives to achieve organizational goals. The ability to solve organizational problems through informed decision is key to strong leadership and management. Decision making is the process of making a choice option from available alternative cause of action with the aim of solving organizational problems. Hornby (2010) defined decision to do something, a choice for judgement that you make after thinking and talking about what is the best thing to do. ''Making'' is the process of growth or development. From the above definition Decision making is a process of taking a valid judgement or choice about something important. Decision making is the very heart of an administrative process of leadership. It is a central responsibility of the school administrator at all levels.

Informed means to supply oneself with knowledge of a subject matter with all facts and evidence, Clear and accurate information about the risks of any proposed investigation can give a better understanding in making an informed decision as an administrator. Informed decisions are decisions based on facts. To make an informed decision there are seven steps strategy:

- Create a constructive environment;
- Investigate the situation in details;
- Generate good alternatives;
- Explore your options;
- Select the best solutions;
- Evaluate your plan;
- Communicate your decision and take action.

It is important to understand what successful leaders do and how they do it. Leadership is viewed as central in addressing and facilitating the work of teaching and learning as well as managing the influences related to the work outside and within the confined of the school environment.

Leaders who strike a proper balance between the stability and change emphasize two priorities in the direction they provide influence they exert and exercise. These leaders work tirelessly to develop and support people to do their best and put more effort to redesign their organization to improve effectiveness.

Basically, the school administrator focuses more on the activities of teachers and students to achieve the aims and objectives of the educational institution. However, external influences or forces like the parents and community where such schools are cited have the potentials to influence education policies and practices.

# LITERATURE REVIEW

Making decision is what leaders do on daily basis in their work place. Apart from individuals or group result decision making is an integral role and function of the administration and a key of organizational outcome. (Bernard, 1968; Donaldson, 1983; Finkelstein & Harmbrick,1996) described decision making as an on-going leadership process. Lunenbung (2010) described decision making as one of the most important activities in which school administration is critically linked to effective decisions. Decision making is a process that involves many alternative choices.

In this paper presentation a decision style theory was adopted which was proposed by driver (1979), in his decision style model which is a general information processing style. The

model has two basic dimensions the amount of information used, and the number of solutions generated (Driver, 1983). However, ignore the effect of environmental factors such as stress or thinking. In his opinion, Driver defined information use as the amount and complexity of information used in thinking using available information as a situation to get one or two useful alternatives which he terms as satisfier to describe this pattern. The second dimension in decision type according to Driver deals with focus which are data reduced to a simple conclusion. In the light of the above Driver termed them uni-focus and multi-focus styles. The uni-focus style attempts to get right answers always. This style usually works from a single absolute value system on a very linear logical fashion. The multi-focus style has the tendency to be intuitive and holistic never closes, in contrary there are always several possible answers which are multiple and relative.

Table 1.1 Driver's Five Decision styles

	Amount Of Information Use		
Focus	Satisfier	Maximizer	
Uni-focus	Decisive	Hierarchic	Systematic
Multi-focus	Flexible	Integrative	

Source: Michael Driver (1983).

The decisive approach uses enough information gathered to get a good answer, then locks it in and tries to make it work. This style is highly action-oriented, highly achieving, efficient and extremely reliable, on time and nest to none. Leadership from inceptions were studied based on personal traits such as physique, intelligence, cognitive ability, appearance, fluency of speech, knowledge, ambition, personal adjustment and emotional control. Bryman (2015) argued that these traits solely cannot be recognised as factors of effective leadership, instead factors like situation, environment, settings and the relationship with followers' matters in the role of effective leadership.

Kotter (1990) stressed that leaders must know how to lead as well as how to manage otherwise without leading as well as managing effectively the organization will face the threat of extinction. The more skilled and proactive leaders are the more likely they feel confident and competent in making good decisions. The leader that understands the nature and principles of decision making will be able to cope with complex and challenging situations effectively. Deming (1986) opined that if a leader must gain quality control over his subordinates is determined over the quality of good decisions he makes. (Ishikawa, 1985) defines leadership as personal grip, commitment and involvement in managing quality. However, (Juan, 1993; Kano, 1993) defined leadership as principles and ideas rather than been controlled by swine forces.

James (1978) opined that leadership can be through experience and it's learnable with bulging outcome on quality. (Crosby,1997) it is imperative to understand that leaders and managers work hand in hand in an organization to accomplish a strategic goal and objectives for the purpose of the success, growth, development and goals of the organization. According to Glanz (2002) the crux of good leadership is the ability to make thought reasoned decisions. In order to be the best judge a leader should have critical thinking skills they must respond quickly to situations.

Globally, educators have witnessed increased interest in data-driven decision making starting from the central office, to the school, to the classroom. This refers to teachers, principals, administrators, systematically collecting and analysing data to improve the learning standard of students and teachers effectiveness by making quality decision for sustainable development.

Coburn et al., 2015; Spillane & Thomson (1997) stressed that good partners can provide access to information and means of interpreting information that is sensitive to local needs. It is also important to plan for appropriate and user-friendly technology and data system that allows educators easy access to appropriate options for analysing, summarizing, organizing and displaying results (Bernharch, 2003; Mandainach et al., 2005: Wayman, 2005; Wayman et al. 2004)

Copeland (2003), Herman (2002), Keeney (1998), Koretz (2003) stipulated that many educators have articulated the value of looking at multiple types and sources of data to inform their practice. Such findings may help provide a more balanced approach to decision making there by reducing the reliance on any single data source which can minimize the likelihood that anyone indicator will become corrupt in a system.

Citing Rowe and Mason (1987) described decision making as a "template "of answers through which an individual approaches important decision. First and foremost, in decision style is a cognitive process, combining activities of perception, information or knowing, rationing and solving a problem.

However, Nut (1990) considers that decision making style is a synthesis and a projection of the system of values, believes, precedence, rules, data specific to a certain manager unconsciously applied in the decision making process. In an organization like the school, the administrator investigates the variable which influences the adaptation of decision making style stressing the fact that people have different psychological typologies and cognitive capacities.

Meyers (1976) a typology of decision making is based on human information processing meaning the way in which people accumulate and use the decision-making process. Jung identified two dimension of human information processing according to the appropriate dimension of the two hemispheres of the brain. The perception (accumulation of information) and judgement (information processing) perception is helped by the sensation while judgement is carried out through thinking.

# CHALLENGES OF THE SCHOOL ORGANIZATION

Educational policies, schemes, and programs have been in vogue. School organization and administration has been very effective in planning and impacting education. However, there are numerous challenges before education. The agency of school organization faces a lot of challenges and to resolve those challenges we must identify them.

# **Lack of Credibility**

Our educational organization has suffered from lack of credibility, these educational agencies has lost their grip over the areas of functioning as a result they are not taken seriously. To restore the credibility there should be general over hall of the entire organizational and administrative structure. On that note, only competent, devoted and efficient individuals should be given positions of responsibility.

# **Poor Facilities**

Lack of urgent facilities can result in many complications for the authorities. Efficiency and control cannot be ensured in absence of required equipments and provisions. However, it would be a great help to the organizers and administrators if the necessary and sufficient facilities are provided in time. Administrators of education are advised to be resourceful and make the best use of whatever little they have.

#### **Unrest and Students Restiveness**

There is usually unrest in every segment of our society. The teachers, parents, and students suffer from unrest for reasons of their own. The inherent unrest needs only a little provocation to come to play and cause all round dislocation of the entire system. Trade unionism further aggravates the situation and exploits every cause for grievance until such interruptions ain the school system has become very difficult to maintain academic atmosphere. In the educational institutions, external forces always snatch every opportunity for creating trouble.

This is indeed a very sad situation. All the well-wishers must join hands to save the student community from constant attacks and trouble, its starting point is hoe effective and informed the leader is in making decisions which can lead to calmness of the school environment.

# WAYS TO HANDLE PROBLEMS IN THE SCHOOL AS AN ADMINISTRATOR

Teachers (employees) can get side for a verity of reasons. It is how informed and proactive a leader adopts a leadership styles that can get solutions to issues confronting the school environment.

As a leader as soon as you sense a problem deal with it. First and foremost is to figure out what the problem is, with the understanding that the problem could be as a result of:

- Misunderstanding or ill-defined goals.
- Lack of communication among team members performance.
- Unresolved internal conflict.
- External misunderstanding and hostility among staff.

As a leader start to resolve these problems, avoiding or denying dealing with such problems hanging around will only grow larger if ignored and as such should be treated at the early stage. As a leader conflicts in the confines of the organization are seen on daily basis, but, the ability to resolve such conflicts is what makes one an effective and well informed leader.

Although creative and intellectual conflict can be healthy, especially when members disagree about results, interpretation, approaches or difference in their constructive way these arguments can produce extraordinary results. However unmanaged conflict can throw the entire system into disarray. As a leader it is expected you intervene quickly to resolve such issues before it gets out of stuck. It is advisable to get a third-party arbiter especially the educational board involved or find data that resolves issues if such matters could not be effectively handled as a leader.

In the school organization, conflicts could be personal or are rooted in power play which turns out to be more destructive than creative conflicts. Ones inability as a well-informed leader in effective decision making to avoid such conflicts can result in a major road-block in the organization. If a matter is sidestepped without being resolved, it will simply get worst.

To discover the cause and root of the company, deal with the source of the conflict because some of the conflict that arises in an organization could be external or domestic problems expressing themselves inappropriately in the work setting, determining the real cause of the problem is the first step in resolving such problems.

A well informed leader handles all forms of conflicts like hostility among members, rumours, speculations, lies, bullies, therefore it is imperative for a well-informed leader to stay alert for every form of disturbance in the personal relationship among staff in discharging his lawful duties as a leader.

# STEPS FOR RESOLVING CONFLICTS IN AN ORGANIZATION

- Identify the conflict and the cause of the hostility.
- Do fact-finding inquiry to investigate the cause of such conflict separately.
- Bringing parties together to meditate solutions.
- As a leader explain the consequences of their action.
- If meditation is successful resolve conflict to bring about a more lasting peace.

# WHO IS AN INFORMED LEADER

An informed leader is always on the alert, he is abreast with current happening in his environment, he is not left in the dark, and he does not dwell on speculations or imaginations about current happenings in his work place. Conflicts can be managed if they are informed and not dwelling on lies and rumours. As a general rule it is better to dispense knowledge than to withhold it that which is communicated with humility and prudence is a blessing to all that receive it. People crave information that bears on their lives and the wise leader knows how to communicate it with wisdom.

It is of uttermost importance for a leader to brief his employee at the beginning of any project, the will avail the leader understand how people feel about it. The leader should do anything possible to keep the people informed at every phase of his endeavour.

An informed leader must always bear in mind that people crave for information and are pleased when they are kept up to date on every development, it will be more appreciated by the people if the information is timely. The leader to maintain n his dignity should share appropriate, accurate and motivating information at all times. As a leader, consider the following before making a decision:

- Do your research which implies that key information should not be missing.
- Identify the choices before you bearing in mind that all decision making has to do with choice and also remember to look at the alternatives and satisfy yourself that they are the only options.
- Seek for assistance from other skilled decision makers.
- Take your time. It is important you take enough time needed before making a decision especially when dealing with rough decisions.
- Consider the best time to implement your decision weighing the alternatives, the good and the bad before executing.
- Your briefs and values are reliable compass that will guide your decision so think thoroughly about it and do not fail to consider your brief and values.

# **CONCLUSION**

The termination of employment is a significant, potentially traumatic event for the individuals concerned as well as the organization. Whether the reasons are to get rid of incompetents, to create a consequence for misconduct, to reinforce standards or to punish violations of ethics, as a leader one has to be well informed and acquitted with the criteria required for the dismissal or carrying out corporate punishment. Suffice me to explain that we automatically assume that things happens because somebody somewhere makes a decision, things sometimes happen without anyone apparently having made a decision and decisions that are made and then nothing happens.

The key in recognizing that notion of decision is a track of language that avoids making hasty ill-informed decisions. The most difficult ones are those that affect people's lives to achieve organizational goals should be well informed in discharging his duties, creditability and highly alert and proactive in resolving conflict or issues that can mar the smooth running of the organization.

Effective leaders are leaders that have gained experience, absorbed knowledge, seen and listened to the world around them (an informed leader) both outside the organization and beyond. Therefore, before any decision is taken, investigations should be a guiding a factor for a leader that is well informed. We invoke to explain outcomes. The notion of decision both reveals and conceals. Decisions allow us to see volitional choices made between alternatives but conceal everything else to shape outcomes.

# **Suggestions**

- Government at all levels who are financier in education should constitute a panel that would investigate matters arising from school personnel.
- The principal and the teachers should find time to investigate and gather informed details of incident before sanction or punishment is being served to the school personnel.
- The principal should intimate himself with all the processes involved in the investigation of cases or problems to ensure that there is organizational justice or school justice.
- The government at the state level should be able to delegate certain responsibilities to school principals to be able to function effectively in terms of investigating and proffering solutions, regarding to issues and challenges in school.
- All the stakeholders in educational institutions should be aware of the factors that could possibly lead to different issues militating against the smooth running of the administration; hence these factors should be curtailed to ensure effectiveness in the school system.

# **REFEFRENCES**

Barnard, C. I. (1968). The functions of the executive. Harvard University Press.

Barrett, H., Bailun, J. L., & Weinistein A. (2005, November) the impact of creativity on performance in non-profits. *International Journal of Non-Profit & Voluntary Sector Marketing*, 10, 213-223.

Bernhardt, V. L. (3003). No School Left Behind. Educational leadership, 60(5), 26-30.

Chitale, A. K., Mohanty, R. P., & Dubry, N. R. (2013). *Organizational behaveiour: text and cases*. Learning Private.

Conburn, C. M., Honig, I., & Stein, M.K. (2005). What's the Evidence on Districts use of Evidence' Chapter prepared for conference Volume, sponsored by the Mac Arthur Network on teaching and learning.

Cook. C. D. (2012). Be a motivational leader. Springer.

Copeland, M. (2003). Leadership of Inquiry; building and sustaining capacity for school improvement. *Educational and Policy Analysis*, 25(4), 375-395.

Crosby, P. (1997). *The Absolute of leadership* (Warren Bennis Executive Briefing). Jossey Bass.

Derming, W. E. (1986). Out of the crisis. MIT Centre for Advanced Engineering Study.

Donaldson, G. (1983) Decision making at the top, the shaping of strategic direction. Basic Books.

- Emiola, A. (2011). Remedies in Administrative Law. Emiola Publishers.
- Finkelstein. S., & Hambrick, D. (1996) top management team tenure and organizational outcome, the moderating role of managerial decision. *Administrative science quarterly*.
- Glanz, J. (2002). Finding your Leadership Style. Association for Supervision and Curriculum Development.
- Herman, J. I. (2002). Instrumental Effect in Elementary School. National Centre for Research in Evaluation, Standards, and Students Testing.
- Ishikawa, K. (1985). What is total quality control? The Japanese way. Prentice-Hall.
- James, M. B. (1978). Leadership. Harper & Row.
- Jung. C. G. (2015). Information technology book series. https://www.oreilly.com/library/view/information-technology/9781466568297/.
- Juran, J. M (1993) July-August). Made in USA: A renaissance in quality. *Harvard Business Review*, 71(4), 42-50.
- Kano, N. (1993). A perspective on quality activities in American firms, California Management Review, 35(3), 12-31.
- Keeney, L. (1998). using Data for school improvement. Report on the second practitioners conference for Annerbery challenge sites. Houston Tex.
- Koretz. D. (2003). Using multiple measures to address perverse incentives and score inflation, educational management. *Issues and Practice*, 22(2), 18-26.
- Kotter, J. P. (1990). A force for change. How leadership differs from management. The Free Press.
- Lunenburg, F. C. (2010) Managing change: The role of the change agent. *International journal of management, Business and Administration*, 13(1), 1-6.
- Marsh, P., Barwise, P., Thomas. K., & Wenley, R. (1988). *Managing strategic investment decisions in large diversified companies*. London Business School: centre for business strategy.
- Michael, H. (2010). Leadership secrets. Collins Publisher.
- Nutt, P. C. (1990) Strategic decision made by top executives and middle managers with data and process dominant styles. *Journal of Management Studies*, 27(2), 172-94.
- Ololube, N. P. (2019). Practical guide to human resources management and organizational theory. Pearl Publishers.
- Preretomode V. P. (2014) *Theories of Management Implications for Educational Administration*, University Printing Press, Delta State.
- Rirett. Pl *Smart Leaders Develop a sound process for making tough decision* published Feb 22 2017: Inc.com columnists.
- Rowe, A. J., & Mason, R. O. (1987). *Managing with style*. A guide to understanding assessing and improving decision makin. Jossey-Bass.
- Sidhu. K. S (1996) school organization and administration. Sterling Publishers Private limited.
- Smith .P. M., & Foley. J. W. (2002). Rules and Tools for Leaders. Avery education publishers.
- Spillane, J. P., & Thompson C. L. (1997). Reconstructing conceptions of local capacity. the local Educational Agency's capacity for ambitious instructional Reform. *Educational Evaluation and Policy Analysis*, 19(2), 185-203.
- Tesluck. P. E., Vance, R. J., & Mathiell, J. E. (1999). Examining employee in the context of participative work environment. Group and Organization Management, 24, 271-299.
- Wayman, Jefrey C., & Stringfield, S. (2005). *Teachers using Data to improve instruction: Exemplary practices in using data ware house and reporting systems*" paper presented at the 2005 annual meeting of American Educational Research Association, Montreal, Canada, April 2005.

Wayman, Jefrey C., Stringfield, S., & Mary, Y. (2004), software enabling school improvement through analysis of students data. Baltimore, mid centre for research on the education of students placed at risk, John Hopkins University.