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Promoting Parental Involvement in Students Education through LMS Application

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Abstract

The research aims to discover the aspects of parental involvement in children's education so that the school and education stakeholders are not only able to maintain the relationship with the parents but also to construct another effective communication medium. The parental involvement is considered one of the main important things for students' academic achievement, moreover, the implementation of blended learning during the pandemic has already boosted parental involvement towards their children's study activities. The research used a quantitative approach with surveys applied. The data was analyzed descriptively by utilizing central tendency (mean and median). Parental involvement was measured through nine components of the Parental Involvement Rating Scale (PIRS). Each of the components consisted of three questions with a scale of responses 0 (disagree) up to 2 (Agree). There were 202 random respondents having at least one child with school-aged. Overall, the highest components of parental involvement were indicated in Parental Attention, Parental Guidance, and Parental Influence while the lowest component was Parental Decision Making. Even though the analysis of the highest components considered three aspects of respondents' demography LMS users or not, the children's age, and the monthly income, it still did not show significant differences.

Keywords: Parental Involvement, Parental Attention, Parental Guidance, Parental Influence, Parental Decision Making.

1. Introduction

The student's academic achievement does not only depend on personal factors, such as self development, but is also strongly influenced by environmental factors [1]. Traditional wisdom suggests that the most potentially problematic students in higher education come from homes where parents fail to educate them socially, and tend to over-indulge and protect them [2]. Psychologically, that many children enter the early childhood education phase with high levels of self-esteem as a result of the unnatural parenting process from their parents; underdeveloped sense of responsibility; sense of entitlement; low respect for authority; as well as mentally blaming others for their own shortcomings [3].

The relationship between parents and children and their impact on the future intellectual, social and emotional development of children is one of the variables that has been studied extensively in the literature [4]. Parenting style and parental involvement are considered as very important determinants of children's academic achievement, both directly and indirectly [5]. Parenting style dimensions, such as parental control and support, were more significant determinants of academic achievement, compared to family demographic characteristics such as parental education level, socioeconomic status, family size and structure. Parenting style can affect students' self-esteem and academic engagement, which in turn has an impact on academic performance or achievement [6].

The COVID-19 pandemic has brought changes in the world of education with the increasing needs for blended learning [7]. However, blended learning is not just combining face-to-face and online learning, but the integration of various factors, including human resources in education consisting of students, teachers and education staff, even parents [8]. Parents, guardians, and families are one of the main factors determining the success of blended learning in schools. If before the pandemic, not all parents were willing or able to be involved in their children's education, it is unlikely that there will be a change in the pattern or level of involvement after the pandemic [9].

The pandemic may add to the complexity of the level of parental support that was previously influenced by several factors, such as: parents' education level; literacy competence, including in digital matters; availability and balance of time between work and family; and the condition of the relationship between parents and children themselves [10]. Parents with limitations on these factors are very likely to need more help or guidance during the pandemic. Therefore, the active involvement of parents (and students) in designing, assessing, or adjusting things related to learning activities will be able to help the continuity of education during this pandemic [11].

Parental involvement in online learning and its variations (hybrid or blended learning) could be even more important compared to conventional schools considering the lack of physical teacher presence and the large amount of time students spend studying at

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home. The physical presence provided by teachers and classrooms had an important impact on the development and formation of academic success factors [12]. Given the lack of teacher physical presence inherent in online learning and the increasing need for parental involvement in children's education, especially in online learning online, it is important for schools to build relationships and communication with parents and support new approaches that can facilitate and even improve both, not only within the school environment but also outside the school community [13].

In the last decade, the function of the learning management system (LMS) as an alternative to support the teaching and learning process in schools has been increasing in Indonesia. This can be seen from the emergence of several LMS applications, accompanied by increased features in order to meet or support learning needs [14]. Given that the average LMS business model uses the B2B (business-to-business) concept, the increase in the number of parents users can be an indication of a need or awareness on the part of the school to connect with parents regarding children's education, especially because of the pandemic period. Therefore, in this study, it will be sought to find out how the form of involvement carried out by parents in relation to their children's education; and how the LMS can facilitate such involvement needs [15].

This study uses the concept of Parental Involvement Rating Scale (PIRS). PIRS aimed to measure parental involvement in their child's education through 9 components [16]. *First, Parental Acceptance* is the extent to which parents accept, approve, tolerate and cooperate with children and their educational activities. The statements in this component measured the child's perception of the level of parental approval of school and school-related activities [17]. *Second, Parental Aspiration* is related to the hopes and goals of parents for the success of their children in the future. Aspirations expressed the higher desires, intentions, and goals that parents pursued through their child's education [18]. The statements in this component measured the desire or ambition expressed by parents, as felt by the child in relation to the child's education. *Third, Parental Attention* is the level of attention, consideration and vigilance of parents towards children's education [19]. The statements in this component informed whether students benefit from the relationship and attention provided by parents. *Fourth, Parental Encouragement* is the amount of support, inspiration, or stimulation given by parents to activate or promote children's educational activities through material and non-material rewards and communication [20].

Fifth, Parental Guidance measures the assistance provided by parents directly in children's education through various activities such as teaching and training at home, helping and supervising homework, regulating and controlling children's behaviour, advising, and counselling. *Sixth, Parental Influence* is parental involvement that works invisibly and functions as a moral force in influencing and promoting children's education [21]. *Seventh, Parental Decision Making* relates to the impact felt by children regarding parents' decisions regarding their education [22]. *Eight, Parental Provision of Physical Facilities* measures how far parents provide conducive physical facilities for learning [23]. *Ninth, Parental Care to the Physical Fitness of a Child* is the special attention of parents or care for children's physical health that can affect children's education [24].

Every component consists of several questions (later referred to as indicators) which are used to measure the level of parental involvement in each component [25]. For example, to measure parental acceptance of their child's education, questions such as whether parents like their child's school of choice, or whether parents encourage their children to participate in competitions [26]. Questions can be arranged in the form of positive sentences or negative sentences. Each question is given three response choice scores with the interpretation of score of 0 = disagree/not true, score of 1 = sometimes, and score of 2 = agree/always true.

2. Research Method

This study used a quantitative approach with a survey applied [27]. The data analysis technique used is a descriptive analysis aimed to explain or describe the conditions or events on each variable that is systematically investigated, so that the researcher did not need to control variables directly. The type of data used in this study was interval data with a rating model scale, in which the respondents could give answers in the range of positive answers (scale 2 = agree) to negative (scale 0 = disagree) depending on the respondent's perception of the questions being assessed. The data sources from this study were parents of school-age children, both LMS users and non-LMS users.

The questionnaires were made using an online survey platform, Google Form, then being distributed to parents in the researcher database through online and social communication media, such as SMS, whatsapp, and Instagram. The survey responses were received from 27 November to 17 December 2020. A total of 202 parental respondents participated randomly in this survey. 63% of parents are from the Bodetabek area, 28% from Jakarta, and the remaining 9% are a combination from Sumatra, Kalimantan, Nusa Tenggara, Bali, Sulawesi, Maluku and Papua. 60% of parents did not use an exclusive learning management system (LMS) application for parents, while the other 40% had an account on the LMS application for parents used by their children's schools. 66% of parents had their first child aged between 4 to 12 years, 24% had their first child aged 13 to 18 years, 7% had their first child aged over 18 years and the remaining 3% were under 4 years. 58% of parents sent their children to public schools, 34% in private schools (including international schools), while the remaining 8% were

varied in madrasah, pesantren or Islamic boarding schools, private SDITs and integrated Islamic schools. As many as 62% of parents had a combined income (husband and wife) below 10 million rupiah per month with 43% of them earning under 5 million rupiah. Meanwhile, 26% of respondents' income were above 20 million rupiah per month, 7% is between 10 million to 15 million rupiah per month, and the remaining 5% is between 15 million to 20 million rupiah.

The questionnaire was divided into 10 sections. The first part contains 7 questions regarding the identity of the respondents, namely: email, name, domicile, LMS/non-LMS users, combined monthly income of husband and wife, age of first child, and type of child's school (public, private, others). In part two until nine asked for parental involvement according to the 9 components of the PIRS. Each component consisted of 3 questions where respondents were only allowed to choose one alternative answer with a score of 0 (Disagree) to a score of 2 (Agree). In total there were 27 questions regarding parental involvement in children's education (questions 8 to 34). Cronbach's Alpha value is 0.83. The instruments used in this study to measure parental involvement in children's education based on the PIRS.

3. Result and Discussion

The results are written based on a logical order to form a story. It shows facts / data instead of discussing the results. Used but not repeating the same data in the same image, table and text. To further clarify the description, subtitles can be used. Parental Guidance (363) and Parental Influence (356), while Parental Decision Making was the component with the lowest total score (296). These results showed that the majority of parental involvement in children's education were implemented by giving attention, guidance, and also invisible influences that functioned as moral strength. The greatest form of attention given by parents was the willingness to listen to children's complaints about the problems they faced at school (PAT3), followed by asking questions in routine related to school lessons, specifically on assignments or homework (PAT2). These concerns were followed by providing guidance, focusing more on accompanying children to study at home (PG1), answering questions asked by children (PG3), and helping with assignments or homework (PG2). These two forms of involvement were in line with the third finding where parents tried to nurture influence in the form of setting examples of good habits such as reading books or being diligent in worship (PI3), motivating children with stories and success stories (PI2), and modelling how to learn in children. Previous parenthood (PI1).

The component with the lowest total score was Parental Decision Making as 55% of respondents gave a score of 0 (2 people) or 1 (109 people) while the other 45% (91 people) chose a score of 2. The high response to a score of 1 (sometimes) indicated there still was a tendency for parents to regulate, perhaps at a certain stage to the point of forcing children to follow the choices that had been determined. The statements used to measure this component were: (DM1) My child likes to ask my opinion about his/her school because I never force him to do this or have to do that (for instance when he chooses extracurricular or is unsure about his school choice); (DM2) I don't follow my child's school of choice, but directly choosing the school; (DM3) I choose my child's school and school activities based on their interests, talents, and abilities.

It can be seen that the lowest total score of the Parental Decision Making indicator is DM2 followed by DM3 and DM1 as the highest. In DM2, the interpretation of a score of 0 means that parents did not at all impose their school of choice on their children but frees children to choose and follow their child's choices, while a score of 2 means that parents completely choose a school for their children. A total of 63 parents responded with a score of 0, 82 parents chose a score of 1, and 57 parents chose a score of 2. Meanwhile, in DM3, 138 parents responded with a score of 2, 54 responses with a score of 1, and 10 responses with a score of 0. Interpretation of a score of 0 on DM3 means that parents did not at all consider the interests, talents, and abilities of children in managing their child's education, while a score of 2 means that parents were fully regulated by considering these three aspects. Literally, the response to the DM2 and DM3 indicators showed a positive trend, in which parents did not tend to be authoritarian but considered the choices, opinions, interests, talents, and abilities of children in their education.

However, the polarization of responses on these two indicators resulted in a considerable distance with the median total score per indicator, so there was an indication that parents who were the subjects in this study had not absolutely given authority to children to make choices regarding their own education, but also not fully willing to impose their will on children. Based on these findings, it can be concluded that in terms of decision making, parents will tend to use their authority to choose educational institutions according to the parents' personal considerations (DM2), but are not authoritarian towards the choice of school activities that children should or want to participate in (DM3).

With the median of the total scores of all components being 349, the components of Parental Acceptance and Parental Encouragement were also two components with a large average distance between the total scores. The low response to the Parental Acceptance component indicated that the respondents in this study could accept the three aspects of the educational program made by their child's school, so parents decided not to be too involved. The biggest aspect of acceptance related to the way schools teach children (PAC1), followed by acceptance of the choice of extracurricular activities (PAC2). The aspect that still did not fully satisfy parents was the opportunity for academic and non-academic competitions at schools (PAC3). The low involvement of parents in these 3

aspects showed parental concern for children's educational activities at school, where parents were still trying to understand the education system prepared by the school and look for its relevance to interests, talents, and its usefulness for the child's future. Polarization of responses between indicators also occurred in the Parental Encouragement components. The total score on the PE1 and PE3 indicators was below the median while PE2 is above the median. This result informed that the greatest support given by the respondent's parents to the development of children's learning outcomes was limited to praise for the child's efforts (PE2). Parents were aware of the need for appreciation in the form of gifts (PE3), especially if the child exceled such as winning a class or competition, but did not always do this (PE1) so that the total score for the PE1 indicator was the lowest for this component.

As many as 80 respondents (40%) were registered as LMS users, integrated with learning at schools and the children (hereinafter written by parents as LMS users). By using the same analytical technique as in the previous section, it obtained differences in the order of the three components of the greatest involvement of parents in children's education. For parents as LMS users, the main form of involvement was still in the form of giving attention (Parental Attention), but it was not followed by the provision of guidance (Parental Guidance) which was actually in the fifth place of involvement, but focused more directly on providing motivation (Parental Influence) to children. This indicated the low involvement of parents in practical activities of children's education, including accompanying and helping children study or doing school assignments at home, as well as responding to various questions asked by children.

Parents as LMS users tended to be involved in the form of motivation, through modelling learning styles and good habits at home, as well as telling success and inspirational stories. The high attention and motivation of parents as LMS users was followed by their high expectations for the education that their children undergo (PAS1) so that parents actively sought information on educational scholarships (PAS3), both at home and abroad, so that children's education could continue even up to the S2 or S3 (PAS2) level, although parental activity in PAS3 was the lowest in the Parental Aspiration components.

The focus of parental involvement in each age group based on the average total response score. In the 4-12 year age group, which was the largest age group of children in this study, the highest parental involvement in children's education was in line with the general findings, Parental Attention, Parental Guidance and Parental Influence. Parents were least involved in the components of Parental Decision Making and Parental Encouragement. The lowest involvement component also lied in the PDM2 and PE1 indicators.

In the 13-18 year age group, the highest parental involvement remained in the form of attention but was followed by the Physical Facilities and Parental Influence. Parental Guidance actually ranked fifth after Parental Aspiration. DM2 and PE1 indicators were consistent as indicators with the lowest involvement in these two age groups, followed by PAS3 indicators. In terms of aspirations, both parents with children aged 4-12 years and 13-18 years, showed the same pattern, their high expectations for the child's education (PAS1) and trying so that the child can continue their education up to the S2 or S3 level (PAS2), but the activeness of parents to seek information about educational scholarships (PAS3) was actually low in this component.

In general, the distribution pattern of the total response score per indicator to the median in the age group of children over 18 years was the same as that in the age group under 4 years which was close to the median, not as polarized as in the age group 4 to 18 years. This indicated that parents tended to be actively involved in every component of existing involvement. In the age group under 4 years, this finding was understandable considering children who were not yet able to be independent, but in the age group for children over 18 years, this finding had the potential to be explored further considering the age of children who were already classified as adults so that parental involvement should tend to be passive.

In general, the distribution pattern of the total response score per component to the median in all income groups showed the same trend, the highest parental involvement in children's education was manifested in Parental Attention, Parental Guidance, and Parental Influence, although the economic background was different. However, for parents with annual incomes below 20 million rupiah, the Parental Aspiration was high compared to parents with annual incomes above 20 million rupiah. The pattern of parental involvement per indicator in this component also showed the same trend as the findings in general, where they placed great hopes and efforts so that children can continue their education, even up to the S2 or S3 (PAS1 and PAS2) levels but are not actively seeking information about educational scholarships for their children (PAS3).

Meanwhile, in line with the findings in general, parental involvement was also low in the components of Decision Making and Parental Encouragement with the same pattern of distribution of total response scores per indicator. However, an interesting phenomenon occurred in parents with an annual income of 10 to 20 million rupiah, where the total response score for the DM1 indicator was below the median. This finding was different from the pattern of findings of the DM1 indicator in general and also in other income groups, thus indicating that parents, with annual incomes belonging to the upper middle class, tended to be too authoritarian to children in education so that children were not too open to talk to or ask for parents' opinion.

Another significant difference was in terms of the Physical Facilities and attention to Physical Fitness.

Only parents with annual incomes exceeding 20 million rupiah who paid high attention to children's health which was manifested by routinely asking about the physical condition of children who were tired or not (PH1), routinely finding out special health care needs for children such as eye or bone health (PH2), and wherever possible to provide nutritious food and supplements that support children's fitness (PH3). In the group of parents with annual income below 10 million rupiah, attention in these three aspects of health was below the median total score per component. In providing physical learning facilities for children, parents with incomes exceeding 20 million per month also show a significant pattern of involvement compared to other income groups. This was due to the ability of parents to provide special facilities such as gadgets and internet (PF1). This finding in PF1 was also shown by parents with an annual income of 15-20 million rupiah, but not found in parents with annual income of less than 10 million rupiah.

Overall, the highest parental involvement in children's education was manifested in the form of Parental Attention, Parental Guidance, and Parental Influence, while the lowest involvement component was in terms of Parental Decision Making. The analysis of the components of the largest involvement by considering three demographic aspects of the respondents, namely: LMS users or not, the age group of children, and the combined annual income of parents, also did not show significant differences. Variation was only shown in parents of LMS users (40% of respondents), where the main form of involvement in terms of giving attention was followed by Parental Aspiration. Parents also had high expectations of their children's education with annual incomes below 20 million rupiah. Only parents with annual incomes exceeding 20 million rupiah were more concerned with the health and completeness of their children's physical learning facilities than other annual income groups.

Although the involvement of parents in terms of decision-making is conditional, where parents use authority in school elections but are open to the choice of school activities that the child should or should participate in; parents, with incomes belonging to the upper middle group (>10 million rupiah / month), tend to be too regulating so that children are not too open to talk or ask for parents' opinions, but the low level of involvement in this component indicates that parents encourage children to be independent. This is in line with research that states the importance of parents always supporting children's efforts to seek independence from an early age because it has a positive impact on the development of children's social skills in interacting and working with peers and adults.

The emergence of the first condition may relate to the age of the child which shows that parental involvement does not stop when the child reaches a certain age but changes with the age of the child. Percentage of parents who consider the opinions of their children in making decisions related to music education that children undergo, is higher in the group of parents with children aged 14-17 years compared to the group of parents with children aged 7-13 years. The parents in the study argued that when children have been well guided from an early age, children will have enough skills that enable them to become more independent as they grow up. At first, children will indeed need a lot of support and encouragement in the form of rewards or incentives, but when they have mastered the necessary skills, the need for parental involvement decreases. In this study, a similar phenomenon was also found. Parental involvement in the age group <4 years includes nine existing components of engagement, as can be seen from the dissemination of data that is close to the median data of that age group. This means that parents are involved in almost every component. In the group of children of early childhood and primary education age (4-12 years), there began to be a varied polarization between the components of involvement, indicating that there is a component where parental involvement is not dominant. Parental Guidance and parental influence of parents in this age group are still high but decrease in the group of children of secondary and higher education age (>12 years). The two components of involvement were replaced by the provision of parental provision of physical facilities which was low in the age group of ≤12 years.

Socioeconomic conditions affect the involvement of parents in children's education through the ability of parents to provide economic, social, cultural resources and other learning facilities. Parents with a high socioeconomic status tend to have more competence and confidence (cultural capital), better social networks (social capital), and more sources of income and material (economic capital) to invest in the education of their children. These types of parents will try to provide the best resources, expensive one, related to learning resources or references, physical facilities such as computers or special learning areas for children at home, transportation, and even gifts. Parents from this status also have a high level of participation, both at home and at school. They always maintain communication with teachers, volunteer in school activities, contribute resources, as well as participate in various school activities. However, other studies found that parental involvement in children's education is not limited by the socioeconomic conditions of families, especially families of Asian descent (Asian parents). Parents of lower social classes with limited education will maximize their involvement in such limited resources. Asian parents will try their best to supervise their child's tasks or homework, even seeking help from their relatives to help when the child faces difficulties doing these tasks.

The indicators in each PIRS component used in this study are focused on the child individual level which carried out within home. Debates often arise regarding the forms of involvement that parents should engage in as well as at what level they should be involved in the child's education. Some argue that parental

involvement should be directed at the school level as an organization and community, rather than burdening or adding the work of parents at home, especially working parents. Others argue that parental involvement is more effective at home especially in planning children's school activities, helping children with tasks, and fostering quality parent-child communication.

Indeed, based on research, find that home-based involvement is the more popular form of involvement carried out in Asian descent families. It is because Asian parents and teachers are used to collaborate in separate domains. They do not duplicate each other's roles. Asian teachers see parents as key educators, supervisors, and supporters of home schooling. Meanwhile, from Asian parents point of view, schools are fully responsible for the development of academic and social skills needed for children to be able to function socially in the society so that school management and leadership issues are entirely the responsibility of teachers and schools. Parents at home are responsible for supporting the goals of the school by providing a healthy psychological environment for the child. Therefore, rather than participating or intervening in school teaching, Asian parents prefer to invest additional resources and time at home to help their child, for example by supervising and assisting with housework, hiring a private teacher, exploring new things with the child for example by discussing spectacles, or take the kids from and to school.

Those findings align with the result of this study with the high scores on Parental Attention (routinely asking questions related to children's lessons, assignments, and problems at school), Parental Guidance (willingness to accompany and help children learn, including answering and providing views on children's questions), Parental Influence (giving examples of learning styles or methods and good habits, and inspiring with stories and success stories). Asian parents tend to provide an ideal learning environment at home and always emphasize the importance of effort, hard work, and endurance to their children. For families of Asian descent, it is natural to have high aspirations towards their child's educational attainment which encourages high academic achievement among children of Asian families.

The emergence of debates on the form and extent of parental involvement in children's education is perhaps because each education stakeholder (teachers, parents, principals, governments, practitioners, and researchers) has its own interpretation of the terms and scope of parental involvement, where everything is mutually separate tried to accommodate various perspectives of these education stakeholders and found that parental involvement in children's education can be grouped into four quadrants based on the combination of: the level of involvement at school level as an organization or only limited to the needs of children as individuals; and areas of involvement, within or outside school. Quadrant I, the improvement of school resources, is a form of activity in the internal area of the school by focusing on organizational-level activities, for example being a committee for collecting funds for school activities or teaching voluntarily. Quadrant II, the supervision of the educational process carried out by the school, is a combination of forms of activity in the internal areas of the school but focuses on the needs of the child as an individual, for example criticizing the teacher's teaching materials, methods, or school tasks, including visiting school once a week. Quadrant III, pedagogy and school welfare, a form of activeness outside the school area and focusing on the needs of the child as an individual, for example attending parent-teacher meetings, or criticizing the number of tasks that the school assigns. Quadrant IV, school welfare, which is a form of activity outside the school area and focuses on organizational-level activities, for example as a companion to study tour activities or school tours.

The results of study indirectly stated that there is no true-false regarding parental involvement. The possibility and necessity are depending on both parents and schools because parent involvement in homes and schools is valuable for the child. Having an understanding allows schools and parents to work better together on when, where, how, and in what areas schools want parents to get involved. Thus, schools can expand their programs to address the issue of parental involvement better. In addition, parents value and trust teachers who are confident and transparent about their actions. In the end, this can reduce the criticism of parents' dissatisfaction with the work of teachers and schools.

The involvement of parents in school-related activities can break the distance, alienation, and indifference between the community and educational institutions. Parents who are involved in educational activities at school are more likely to change their views on teachers and the teacher profession, help the school build a better image outside the school, and contribute to building school creativity. In addition, the involvement of parents in schools provides benefits personally and academically. Personally, engaging parents allows them to understand their children's world (peers and classmates, habits, and social rules) that can help deepen their relationship with their children. Academically, connecting parents with positive school-related topics, such as various school curricula and educational programs, provides parents with basic and important information and knowledge that can be used to guide and help their children succeed.

Percentage of parental participation in four types of school activities, namely school communication, volunteers, donations, and other school activities. School communication is the most popular for parents to do in the form of attending meetings or joining parent-teacher organizations; and maintain relationships with schools and teachers. When parents

and teachers communicate with each other, they transform into a team where they know each other's weaknesses and strengths which can then be used to create a more effective environment to support and promote students' academic, emotional, and intellectual well-being.

Every parent basically wants their child to succeed and expects to be involved in educational activities, both at home and at school. However, parents sometimes have difficulty in carrying out this, especially working parents. The limitations of distance, time, and even sometimes the physical presence, make it difficult for parents to be more involved in their child's education in traditional ways such as attending parent-teacher meetings or being a committee for school events. Technology has great potential to overcome barriers to distance, time, language, and access to educational resources by enhancing and exploring communication opportunities between home and school; inform parents of students' performance, achievements, and academic presence; enable teachers to better involve parents in school activities; and effectively monitor student activities in the school from time to time. Technology allows schools and teachers to communicate with parents more regularly, on time and in a more efficient, easy, and convenient way so that communication between parents and teachers becomes more productive. By integrating technology into communication strategies, schools can quickly reach as many parents as possible.

The three main components of parental involvement found in this study can be interpreted as the need for parents to help or supervise their child's education at home. Therefore, the development of educational technology for parents should be focused on meeting these three needs so that the benefits of technology as a bridge of communication between schools and parents can be truly felt by parents. Indicators on Parental Attention (routinely asking questions about children's lessons, assignments, and problems at school) indirectly indicate that parents need information about assignments, things their children have learned at school, including existing problems related to both. Indicators on Parental Guidance (willingness to accompany and help children learn, including answering and providing views on children's questions) and Parental Influence (exemplifying learning styles or methods and good habits, including inspiring with success stories and stories) also indicate the need for parents to update themselves with the information and knowledge necessary to help and guide their children properly and correctly.

At the very least, by knowing the hierarchy of parent engagement components of this study, schools and educational technology developers get an idea of the components that are priorities, and vice versa. This information can help the preparation of programs (for schools) and the development of educational technology products to be more targeted and effective. This accuracy can also be combined with factors such as the age of the child and economic factors. For parents with children aged <4 years, information or technology that can accommodate all existing components of engagement, is very important considering that parents in this age group tend to be involved in almost all components. However, for parents with ≥4-year-olds, who have reduced their involvement in some components because they think their child has grown up and is independent, it only needs some information. Although economic status or conditions only affect the ability of parents to provide educational facilities for their children, but not with their motivation and efforts to provide the best for children, this factor can be a consideration for educational technology developers in determining market segmentation, designing quality products that are economically friendly, both for use by parents and their children.

This study also found that for parents who are registered as LMS users, the Parental Influence and Parental Aspiration components take precedence over Parental Guidance, which shows that among parents who use this educational technology, regardless of whether they are active as users or not, the high level of education of children up to the Master and Doctoral level is an important thing compared to providing guidance. Therefore, access to information regarding scholarships, colleges, tutoring, study abroad experiences, or college applications, may be important and beneficial for them to include in the LMS application they use.

Information about activities at school, including assignments and exams, is always present on the six LMS applications, indicating that information is an important need for parents. This information is followed by the existence of a message feature that allows parents to directly send messages and communicate with teachers regarding certain topics in the same application, it is also important for parents considering that 4 LMS provide this feature. Attendance features, schedules, and reports on children's learning progress are also present in each application, along with payment features. All these features should be able to facilitate a form of involvement of parents who prioritize Parental Attention and Parental Guidance in their children's education. Although technology strengthens the existing relationship between parents and schools while creating new opportunities in relationships and communication too often educational technology for parents is only used or reached by parents with the upper middle class, which is already highly motivated in supporting their children's learning. The study found that parents of low socioeconomic classes also had the same motivation to engage in the education of their children. Therefore, schools, with the help of technology, should not only empower parents as individuals but also as a community that can support and help each other, while simultaneously motivating and reaching out to groups of parents who have not

been able or have not been willing to engage in the education of their children.

4. Conclusion

Everyone agrees that the involvement of parents in education is important and beneficial for students, school development, helping teachers and strengthening families. In online learning and its variations (hybrid or blended learning), parental involvement can be more important than in traditional schools given the lack of physical presence of teachers and the amount of time students spend studying at home. However, there is confusion and disagreement about which practices are considered the best form of parental involvement, whether it is sufficiently focused on the child as an individual at home or should it be up to the level of school organization, what exactly is the form of parental involvement. This study showed that the main focus of parents in their children education are by providing attention i.e., regularly asking questions related to children's lessons, tasks, and problems at school; guidance i.e., the willingness to accompany and help children learn, including answering and providing views on children's questions; and motivation by exemplifying learning styles or methods and good habits, including inspiring with success stories. Parent less involvement is in decision-making because they trust and consider the opinions and experiences of their children. The economic conditions of parents, the age of the child, as well as the use of LMS technology applications for parents, do not provide varied differences between the three focuses of involvement. Understanding the forms of involvement that parents are primarily focused on can help schools and educational technology developers to share, collaborate, or even separate domains of responsibility in a child's education. Therefore, it is important for schools to build relationships and communication with parents and support new approaches that can facilitate and even improve both things. LMS, as a learning management system, has been able to accommodate the needs of parental involvement, especially in the form of providing attention and guidance, through the features of messages, announcements, notifications, attendance, schedules, and reports on children's performance and their analysis. The development of an LMS to meet the needs of parents who want to be involved in their children's education and facilitate school-parent relationships, requires some material and non-material investments. However, if designed appropriately, in addition to being able to be utilized optimally to connect schools with parents, then at a more meaningful level it can encourage parents to be willing to care more and participate in the education of their children.

References

[1] Addi-Raccah, A., & Arviv-Elyashiv, R. (2008). Parent Empowerment and Teacher Professionalism: Teachers' Perspective. *Urban Education, 43*(3), 394–415. DOI: https://doi.org/10.1177/0042085907305037 .

[2] Bakker, J., Denessen, E., & Brus-Laeven, M. (2007). Socio-Economic Background, Parental Involvement and Teacher Perceptions of These In Relation to Pupil Achievement. *Educational Studies, 33*(2), 177–192. DOI: https://doi.org/10.1080/03055690601068345 .

[3] Duan, W., Guan, Y., & Bu, H. (2018). The Effect Of Parental Involvement and Socioeconomic Status On Junior School Students' Academic Achievement and School Behavior In China. *Frontiers in Psychology, 9*(952), 1–8. DOI: https://doi.org/10.3389/fpsyg.2018.00952 .

[4] Fang, L. (2016). Educational aspirations of Chinese migrant children: The role of self-esteem contextual and individual influences. *Learning and Individual Differences, 50*, 195–202. DOI: https://doi.org/10.1016/j.lindif.2016.08.009 .

[5] Fisher, Y. (2016). Multi-dimensional Perception of Parental Involvement. *Universal Journal of Educational Research, 4*(2), 457–463. DOI: https://doi.org/10.13189/ujer.2016.040220 .

[6] Fisher, Y., FitzGerald, A. M., & Olson, A. (2022). What Do Teacher-Education College Students Know about Parental Involvement: A Comparative Study between the U.S. and Israel. *Education and Urban Society, 54*(6), 1–17. DOI: https://doi.org/10.1177/00131245211026685 .

[7] Fisher, Y., Magen-Nagar, N., & Abu-Nasra, M. (2014). Sectorial Perceptions of Parental Involvement: Similarities and Dissimilarities. *Advances in Social Sciences Research Journal, 1*(7), 66–85. DOI: https://doi.org/10.14738/assrj.17.668 .

[8] Keetanjaly, A., Abdul Kadir, S., Su Luan, W., & Abdullah, A. (2019). The Role of Creativity In Principals' Leadership Practices Towards Parental Involvement: The Mediating Role of School Practices And School Climate. *International Journal of Educational Management, 33*(6), 1352–1365. DOI: https://doi.org/10.1108/IJEM-11-2018-0348 .

[9] Kim, J. Y., & Kim, E. (2021). Effect of Positive Parenting Styles as Perceived By Middle School Students on Academic Achievement and The Mediation Effect of Self-Esteem and Academic Engagement. *Sustainability (Switzerland), 13*(23). DOI: https://doi.org/10.3390/su132313233 .

[10] Kösterelioğlu, İ. (2018). Effects of Parenting Style on Students' Achievement Goal Orientation: A Study on High School Students. *Educational Policy Analysis and Strategic Research, 13*(4), 91–107. DOI: https://doi.org/10.29329/epasr.2018.178.5

[11] Insani, A., Yufiarti, & Yetti, E. (2021). Parental Involvement and Mothers' Employment on Children's Independence During Covid-19 Pandemics. *JPUD - Jurnal Pendidikan Usia Dini, 15*(1), 22–40. DOI: https://doi.org/10.21009/jpud.151.02 .

[12] Jeynes, W. H. (2007). The Relationship Between Parental Involvement and Urban Secondary School Student Academic Achievement: A Meta-Analysis. *Urban Education, 42*(1), 82–110. DOI: https://doi.org/10.1177/0042085906293818 .

[13] Kuru Cetin, S., & Taskin, P. (2016). Parent Involvement in Education in Terms of Their Socio Economic Status. *Eurasian Journal of Educational Research, 66*, 105–122. DOI: https://doi.org/10.14689/ejer.2016.66.6 .

[14] Lazaridou, A., & Kassida, A. G. (2015). Involving Parents In Secondary Schools: Principals' Perspectives In Greece. *International Journal of Educational Management, 29*(1), 98–114. DOI: https://doi.org/10.1108/IJEM-06-2013-0102 .

[15] Matejevic, M., Jovanovic, D., & Jovanovic, M. (2014). Parenting Style, Involvement of Parents in School Activities and Adolescents' Academic Achievement. *Procedia - Social and Behavioral Sciences, 128*, 288–293. DOI: https://doi.org/10.1016/j.sbspro.2014.03.158 .

[16] Necşoi, D. V., Porumbu, D., & Beldianu, I. F. (2013). The Relationship between Parental Style and Educational Outcomes of Children in Primary School in Romania. *Procedia - Social and Behavioral Sciences, 82*, 203–208. DOI: https://doi.org/10.1016/j.sbspro.2013.06.246 .

[17] Öngören, S. (2021). The Role of Parents in Children's School Readiness. *Educational Policy Analysis and Strategic Research, 16*(3), 2021. DOI: https://doi.org/10.29329/epasr.2020.373.10 .

[18] Ramirez, F. (2001). Technology and Parental Involvement. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *75*(1), 30–31. DOI: https://doi.org/10.1080/00098650109599230 .

[19] Reay, D. (2006). The Zombie Stalking English Schools: Social Class and Educational Inequality. *British Journal of Educational Studies*, *54*(3), 288–307. DOI: https://doi.org/10.1111/j.1467- 8527.2006.00351 .

[20] Roblyer, M. D., & Marshall, J. C. (2002). Predicting Success of Virtual High School Students: Preliminary Results From an Educational Success Prediction Instrument. *Journal of Research on Technology in Education*, *35*(2), 241–255. DOI: https://doi.org/10.1080/15391523.2002.10782384 .

[21] Sheridan, S. M., Knoche, L. L., Edwards, C. P., Bovaird, J. A., & Kupzyk, K. A. (2010). Parent Engagement and School Readiness: Effects of The Getting Ready Intervention on Preschool Children's Social-Emotional Competencies. *Early Education and Development*, *21*(1), 125– 156. DOI: https://doi.org/10.1080/10409280902783517 .

[22] Shute, V. J., Hansen, E. G., Underwood, J. S., & Razzouk, R. (2011). A Review of the Relationship between Parental Involvement and Secondary School Students' Academic Achievement. *Education Research International, 2011*, 1–10. DOI: https://doi.org/10.1155/2011/915326 .

[23] Stevens, M., & Borup, J. (2015). Parental Engagement In Online Learning Environments: A Review Of The Literature. *Advances in Research on Teaching, 25*, 99–119. DOI: https://doi.org/10.1108/S1479-368720150000027005 .

[24] Theresya, J., Latifah, M., & Hernawati, N. (2018). The Effect of Parenting Style, Self-Efficacy, and Self Regulated Learning on Adolescents' Academic Achievement. *Journal of Child Development Studies*, *3*(1), 28. DOI: https://doi.org/10.29244/jcds.3.1.28-43 .

[25] Toor, K. K. (2018). Parent-Child Relationship and Students' Academic Achievement: A Study Of Secondary School Students. *MIER Journal of Educational Studies, Trends & Practices*, *8*(1), 38–56. DOI: https://doi.org/https://doi.org/10.52634/mier/2018/v8/i1/1418 .

[26] Treviño, E., Miranda, C., Hernández, M., & Villalobos, C. (2021). Socioeconomic Status, Parental Involvement and Implications for Subjective Well-Being During the Global Pandemic of Covid-19. *Frontiers in Education*, *6*, 1–10. DOI: https://doi.org/10.3389/feduc.2021.762780 .

[27] Yin-Chan Liao, Ottenbreit-Leftwich, A., Zhu, M., Jantaraweragul, K., Christie, L., Krothe, K., & Sparks, K. (2021). How Can We Support Online Learning for Elementary Students? Perceptions and Experiences of Award-Winning K-6 Teachers. *TechTrends*, *65*, 939–951. DOI: https://doi.org/https://doi.org/10.1007/s11528-021-00663-z .