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Core and Functional Training on the Student Athletes Learning Competencies and Skill Acquisitions

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Abstract— *Many student athletes find it hard to balance their sports training with school work. Most training programs focus only on building the body not on helping the mind. This study looked at how core and functional training can help student athletes become better both in sports and in thinking skills. The goals of this research were to determine the degree of core and functional training among student athletes, evaluate their learning abilities and methods for acquiring new skills, examine the relationship between these factors, and develop a training regimen that benefits both the body and the mind. The study used a quantitative design. The respondents were 165 first year college student athletes from five private schools in Santa Cruz, Laguna. Data were gathered using a questionnaire made by the researcher and were analyzed using mean, standard deviation, and Pearson correlation. Student athletes showed very high levels of core and functional training they also showed strong learning skills in critical thinking, creative thinking, and communication. They were also highly skilled in all stages of learning new skills. The study found a clear connection between core and functional training and both learning skills and skill learning. The study concludes that core and functional training help student athletes develop not only their physical abilities but also their learning competencies and skill acquisitions. A 12 week training program was created to help student athletes improve both their body and mind while still doing well in school.*

Keywords— *Core training, functional training, learning competencies, skill acquisitions, physical education.*

I. INTRODUCTION

Physical fitness is an essential component of a student-athlete's overall development, contributing not only to improved sports performance but also to enhanced learning capabilities. In recent years, the integration of core and functional training has gained increasing attention among educators, coaches, and researchers due to its holistic approach to developing strength, balance, coordination, and cognitive engagement.

Based on Dhoriya (2025), the modern landscape of competitive sports demands more than just raw strength or endurance, it requires a sophisticated blend of physical intelligence, biomechanical efficiency, and cognitive adaptability. For the student-athlete, the challenge is twofold they must master complex motor skills on the field while maintaining the mental acuity necessary for academic success. Traditional training methods often isolate muscle groups, failing to address the integrated nature of athletic movement.

Core training provides the proximal stability required for distal mobility. Functional training builds upon this by emphasizing movements rather than muscles. These two heightened sensory feedbacks in which complex skill acquisition is built.

In the academic context, studies have revealed that physical activities requiring coordination and balance can enhance neural connections and cognitive functions. Learning competencies in sports involve the athlete's ability to decode, internalize, and execute new patterns of play. Hence, the inclusion of structured physical training programs may contribute to developing learning competencies such as critical thinking, creativity, and communication skills essential for lifelong learning and adaptability.

Students especially those who are athletes are frequently struggling in which core and functional training can help in improving their learning competencies and skill acquisitions.

II. METHODOLOGY

This study utilized a quantitative correlational research design. Quantitative research was deemed appropriate as it allows for the collection of measurable data from a large group of respondents, which can be statistically analyzed to determine relationships between variables. The correlational method was specifically used to identify whether there is a significant relationship between core and functional training (independent variables) and learning competencies and skill acquisition (dependent variables).

Correlational research design is effective for examining associations among variables without manipulating them making it suitable for studies seeking to describe and explain patterns of relationships. This method enabled the researcher to assess how different components of core and functional training the strength, agility, flexibility, stabilization, metabolic, and plyometric exercises influence student athletes levels of learning competencies the critical thinking, creative thinking, and communication and skill acquisition the cognitive, associative, and autonomous stages.

The design also aligns with the study's goal of providing empirical evidence to support the creation of a training program that integrates physical and cognitive development for student athletes.

III. RESULT AND DISCUSSION

Table 1 shows the level of core training of student-athletes in terms of strength. It assesses how consistently and effectively athletes engage in strength-related activities as part of their training program. The statement with the highest mean score is Strength training leads to better body power and stability with a mean of 4.54. This means athletes strongly

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agree that strength training helps them become more powerful and stable. With a mean of 4.49, the sentence that received the lowest score was Progressive overload is a key component of strength training for performance gain. Even though this score is still very high it is a bit lower than the others. This suggest that while most athletes apply progressive overload some may not always do it in their training. The standard deviation of 0.50 shows that the answers of all 165 student athletes were very similar. This means most athletes had the same experience with strength training. The weighted mean of 4.52 is interpreted as Very High.

TABLE I. Level of core training of the student athlete in terms of Strength

STATEMENT	***MEAN***	***SD***	***REMARKS***
The overall muscle strength develop through regular exercise.	4.52	0.50	Strongly Agree
Progressive overload is a key component of strength training for performance gains.	4.49	0.50	Strongly Agree
Sport-specific skills are enhanced when strength training is incorporated.	4.53	0.50	Strongly Agree
Injury prevention and improved endurance result from consistent strength training.	4.53	0.50	Strongly Agree
Strength training leads to better body power and stability.	4.54	0.50	Strongly Agree
Weighted Mean	*4.52*		
SD	*0.50*		
Verbal Interpretation	***Very High***		

TABLE II. Level of core training of the student athlete in terms of Agility

STATEMENT	**MEAN**	**SD**	**REMARKS**
Agility drills develop quickness and the ability to change direction rapidly.	4.50	0.50	Strongly Agree
Faster responses to unpredictable movements are gained from agility training.	4.48	0.50	Strongly Agree
Balance and control during fast transitions are outcomes of agility training.	4.52	0.50	Strongly Agree
Improved reaction time and coordination are associated with agility workouts.	4.52	0.50	Strongly Agree
The capacity to shift between offense and defense is enhanced by agility training.	4.51	0.50	Strongly Agree
Weighted Mean	4.50		
SD	0.50		
Verbal Interpretation	**Very High**		

Table 2 show the level of core training of student-athletes in terms of agility. It assesses how consistently and effectively athletes engage in agility-related activities as part of their training program. The statements with the highest score were Balance and control during fast transitions are outcomes of agility training and Improved reaction time and coordination are associated with agility workouts both with a mean of 4.52. This means athletes strongly agree that agility training helps them stay balanced and react quickly. The statement with the lowest score was Faster responses to unpredictable movements are gained from agility training with a mean of 4.48 while still very high this score is slightly lower. This suggest that responding to truly unpredictable movements is harder and need more practice. The standard deviation of 0.50 shows that all athletes gave similar answers this means most athletes agree on the benefits of agility training. The weighted mean of 4.50 is interpreted as Very High.

TABLE III. Level of core training of the student athlete in terms of Flexibility

STATEMENT	***MEAN***	***SD***	***REMARKS***
Pre- and post-workout stretching exercises are standard practice in training.	4.52	0.50	Strongly Agree
Range of motion and joint mobility increase with regular flexibility exercises.	4.48	0.50	Strongly Agree
Fewer muscle strains occur when flexibility exercises are performed consistently.	4.54	0.50	Strongly Agree
Technical movements are executed with greater comfort and fluidly when flexibility is prioritized.	4.53	0.50	Strongly Agree
Improved posture and faster recovery are benefits of flexibility training.	4.54	0.50	Strongly Agree
Weighted Mean	*4.52*		
SD	*0.50*		
Verbal Interpretation	***Very High***		

Table 3 shows the level of core training of student athletes in terms of flexibility. It examines the regularity and efficacy with which athletes participate in flexibility-related activities as part of their training regimen. The statements with the highest scores were Fewer muscle strains occur when flexibility exercises are performed consistently and Improved posture and faster recovery are benefits of flexibility training both with a mean of 4.54 this means athletes strongly agree that flexibility training helps prevent injuries and improve recovery. The statement with the lowest score was Range of motion and joint mobility increase with regular flexibility exercises with a mean of 4.48 while still very high this score is slightly lower. This suggests that while athletes see the benefits of flexibility they notice injury prevention and recovery more than increased range of motion. The standard deviation of 0.50 shows that all athletes had similar experiences with flexibility training. The weighted mean of 4.52 is interpreted as Very high.

Table 4 shows the level of functional training of student athletes in terms of core stabilization. It assesses how consistently and effectively athletes engage in core stabilization activities as part of their functional training program. The statement with the highest scores were Performance under physical stress improves with a stable core and Coordination and stability in sports rely on core stabilization both with a mean of 4.54 this means athletes strongly agree that core stabilization helps them perform well even when tired and improves their coordination. The lowest mean score was Better posture is achieved with consistent core stabilization work with a mean of 4.51 while still very high this score is slightly lower. This suggest that maintaining balance during fast movements is challenging and may need more work. The standard deviation of 0.50 shows that all athletes had similar views about core stabilization. The weighted mean of 4.53 is interpreted as Highly Functional.

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TABLE IV. Level of functional training of the student athlete in terms of Core stabilization

STATEMENT	*MEAN*	*SD*	*REMARKS*
Core stabilization exercises target the abdominal and lower back muscles.	4.52	0.50	Strongly Agree
Maintaining balance during dynamic movements depends on core stabilization.	4.51	0.50	Strongly Agree
Better posture is achieved with consistent core stabilization work.	4.53	0.50	Strongly Agree
Performance under physical stress improves with a stable core.	4.54	0.50	Strongly Agree
Coordination and stability in sports rely on core stabilization.	4.54	0.50	Strongly Agree
Weighted Mean	*4.53*		
SD	*0.50*		
Verbal Interpretation	***Highly Functional***		

Table 5 shows the level of functional training of student athletes in terms of metabolic training. It assesses how consistently and effectively athletes engage in metabolic conditioning activities as a part of their functional training program. The statement with the highest scores were Faster recovery after intense activities is a result of metabolic training, Cardiovascular endurance is strengthened by metabolic training, and Multiple training sessions are manageable with effective metabolic training all with a mean of 4.52 this means athletes strongly agree that metabolic training helps them recover quickly and stay strong. The statement with the lowest score was Sustained performance throughout the game is supported by metabolic training with a mean of 4.49 while still very high this score is slightly lower. This suggests that keeping performance high for a whole game is challenging and depends on many factors. The standard deviation of 0.50 shows that all athletes had similar experiences with metabolic training. The weighted mean of 4.51 is interpreted as Highly Functional.

TABLE V. Level of MAPEH Teachers' Workload in terms of Support Functions

STATEMENT	*MEAN*	*SD*	*REMARKS*
Endurance is built through metabolic training.	4.50	0.50	Strongly Agree
Sustained performance throughout the game is supported by metabolic training.	4.49	0.50	Strongly Agree
Faster recovery after intense activities is a result of metabolic training.	4.52	0.50	Strongly Agree
Cardiovascular endurance is strengthened by metabolic training.	4.52	0.50	Strongly Agree
Multiple training sessions are manageable with effective metabolic training.	4.52	0.50	Strongly Agree
Weighted Mean	*4.51*		
SD	*0.50*		
Verbal Interpretation	***Highly Functional***		

Table 6 shows the level of functional training of student athletes in terms of plyometric exercises. It assesses how consistently and effectively athletes engage in plyometric activities as part of the functional training program The statement with the highest scores were Generate more power in short bursts is a key outcome of plyometric exercise and Confidence in performing explosive sports actions comes from plyometric training both with a mean of 4.54 this means athletes strongly agree that plyometric training helps them produce power quickly and feel confident. The statement with lowest score was Explosiveness and quick reactions are developed with plyometric training with a mean of 4.49 while still very high but this score is slightly lower. This suggest that becoming more explosive takes time and practice. The standard deviation of 0.50 shows that all athletes had similar views about plyometric training. The weighted mean of 4.52 is interpreted as Highly Functional.

TABLE VI. Level of functional training of the student athlete in terms of Plyometric exercises

STATEMENT	*MEAN*	*SD*	*REMARKS*
Plyometric drills such as jumps, hops, or bounds are incorporated into training.	4.53	0.50	Strongly Agree
Explosiveness and quick reactions are developed with plyometric training.	4.49	0.50	Strongly Agree
Jumping and sprinting ability are improved by plyometric exercises.	4.52	0.50	Strongly Agree
Generate more power in short bursts is a key outcome of plyometric exercise.	4.54	0.50	Strongly Agree
Confidence in performing explosive sports actions comes from plyometric training.	4.54	0.50	Strongly Agree
Weighted Mean	*4.52*		
SD	*0.50*		
Verbal Interpretation	***Highly Functional***		

TABLE VII. Level of learning competencies of the student athletes in terms of Critical thinking

STATEMENT	*MEAN*	*SD*	*REMARKS*
Game situations are analyzed effectively when critical thinking is applied.	4.52	0.50	Strongly Agree
Mistakes are assessed and better decisions are made during practice with critical thinking.	4.53	0.50	Strongly Agree
Strategies to improve performance are developed using critical thinking.	4.51	0.50	Strongly Agree
Different solutions are evaluated before acting in competitive situation.	4.52	0.50	Strongly Agree
Quick adjustment of approach is made based on analysis during play.	4.53	0.50	Strongly Agree
Weighted Mean	*4.52*		
SD	*0.50*		
Verbal Interpretation	***Highly Competent***		

Table 7 shows the level of learning competencies of student athletes in terms of critical thinking skills in analyzing game situation and making strategic decision. The statements with the highest scores were Mistakes are assessed and better decisions are made during practice with critical thinking and Quick adjustment of approach is made based on analysis during play both with a mean of 4.53 this means athletes strongly agree that they can learn from mistakes and adapt quickly. The lowest score was Strategies to improve performance are developed using critical thinking with a mean of 4.51 while still very high even though this score is slightly

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lower. This suggest that thinking about long term strategies may be harder than making quick adjustments during play. The standard deviation of 0.50 shows that all athletes had similar experiences with critical thinking. The weighted mean of 4.52 is interpreted as Highly Component.

TABLE VIII. Level of learning competencies of the student athletes in terms of Creative thinking

STATEMENT	MEAN	SD	REMARKS
New movements and techniques are explored through creative thinking.	4.50	0.50	Strongly Agree
Strategies are improvise when game conditions suddenly change.	4.50	0.50	Strongly Agree
Original ideas to improve my playing performance are generated.	4.50	0.50	Strongly Agree
Creative thinking in solving skill challenges is encourage by coaches.	4.52	0.50	Strongly Agree
Alternative ways to execute a skill or move more effectively are explored.	4.52	0.50	Strongly Agree
Weighted Mean **SD** **Verbal Interpretation**	4.51 0.50 **Highly Competent**		

Table 8 shows the level of learning competencies of student athletes in terms of creativity thinking. It assesses how effectively athletes utilize creative thinking skills in generating new ideas, improving strategies, and exploring alternative movement solutions. The statement with the highest scores were Creative thinking in solving skill challenges is encourage by coaches and Alternative ways to execute a skill or move more effectively are explored both with a mean of 4.52 this means athletes strongly agree that coaches encourage creativity and that the look for different ways to do skills. The statements with the lowest scores were Strategies are improvise when game conditions suddenly change and Original ideas to improve my playing performance are generated all with a mean of 4.50 while still very high even these scores are highly lower. This suggests that trying trying new things and coming up with original ideas takes more courage and practice. The standard deviation of 0.50 shows that all athletes had similar experiences with creative thinking. The weighted mean of 4.51 is interpreted as Highly Competent.

Table 9 shows the level of learning competencies of student athletes in terms of communicating. It assesses how effectively athletes utilize communication skills in interacting with teammates and coaches during training and hard situations. The statements with the highest scores were Teamwork is improved when communication is emphasized during training and Verbal and nonverbal signals are used effectively to coordinate actions both with a mean of 4.54 this means athletes strongly agree that talking and signaling help the team work better together. The statement with the lowest score was Listening and responding effectively to coach's feedback is practiced with a mean of 4.52 while still very high this score is slightly lower. This suggests that listening and responding to feedback takes practice and focus. The standard deviation of 0.50 shows that all athletes had similar experiences with communication. The weighted mean of 4.53 is interpreted as Highly Competent.

TABLE IX. Level of learning competencies of the student athletes in terms of Communicating

STATEMENT	*MEAN*	*SD*	*REMARKS*
Clear communication with my teammates during training or games is practiced.	4.53	0.50	Strongly Agree
Listening and responding effectively to coach's feedback is practiced.	4.52	0.50	Strongly Agree
Ideas are expressed confidently in group discussions or drills.	4.53	0.50	Strongly Agree
Teamwork is improved when communication is emphasized during training.	4.54	0.50	Strongly Agree
Verbal and nonverbal signals are used effectively to coordinate actions.	4.54	0.50	Strongly Agree
Weighted Mean ***SD*** ***Verbal Interpretation***	*4.53* *0.50* ***Highly Competent***		

TABLE X. Level of skill acquisition of the student athletes in terms of Cognitive stage

STATEMENT	*MEAN*	*SD*	*REMARKS*
Understanding of the steps needed when learning a new skill is achieved.	4.53	0.50	Strongly Agree
New movements are performed correctly by following instructions and demonstrations.	4.53	0.50	Strongly Agree
Conscious thought is applied to each action while practicing new techniques.	4.53	0.50	Strongly Agree
Frequent feedback from the coach is utilized to correct mistakes.	4.50	0.50	Strongly Agree
Focus is placed on remembering and understanding the correct form of each skill.	4.53	0.50	Strongly Agree
Weighted Mean ***SD*** ***Verbal Interpretation***	*4.52* *0.50* ***Highly Skilled***		

Table 10 shows the level of skill acquisition of student-athletes in terms of the cognitive stage. It evaluate how athletes participate in the first stage of learning when deliberate focus is placed on comprehends the what and how of a task. The results show that student athletes strongly declare that they clearly understand the steps needed when learning a new skill. They indicate that they based on instructions and demonstrations to perform new movements correctly and think about each action while practicing new techniques. The respondents also express that they need some feedback from their coaches to correct their mistakes and to be focus on remembering and understanding the correct form of each skill. The indicators with the highest score were Understanding of the steps needed when learning a new skill is achieved, New movements are performed correctly by following instructions and demonstrations, Conscious thought is applied to each action while practicing new techniques and Focus is placed on remembering and understanding the correct form of each skill all with a mean of 4.53 this means athletes strongly agree that they pay close attention when learning new skills. The lowest indicator was Frequent feedback from the coach is utilized to correct mistakes with a mean of 4.50 while still very high this score is slightly lower. This suggest that athletes are starting to catch some mistakes on their own. The

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standard deviation of 0.50 shows that all athletes had similar experiences in the cognitive stage. The weighted mean of 4.52 is interpreted as Highly Skilled.

TABLE XI. Level of skill acquisition of the student athletes in terms of Associative stage

STATEMENT	*MEAN*	*SD*	*REMARKS*
Movements become smoother and more coordinated with continuous practice.	4.52	0.50	Strongly Agree
Errors are detected and corrected independently during performance.	4.53	0.50	Strongly Agree
Less guidance from the coach is required as familiarity with a skill increases.	4.53	0.50	Strongly Agree
Different movements are combined more fluidly during training.	4.53	0.50	Strongly Agree
Skills are performed with improved accuracy and timing after repeated practice.	4.49	0.50	Strongly Agree
Weighted Mean	*4.52*		
SD	*0.50*		
Verbal Interpretation	***Highly Skilled***		

Table 11 shows the level of skill acquisition of student athletes in terms of the associative stage. It assesses how athletes participate in the improvement stage when they start to recognize and fix their own mistakes and depend less on spoken instructions. The results show that student athletes strongly assert that their movements become smoother and more coordinated through continuous practice. They indicate that they can detect and correct their own mistake during performance and require less coaching from their coach as to be more become familiar with a skill. The respondents also express that they are able to combine different movements more smoothly during training and perform skills with improve accuracy and timing after repeated practice. The indicators with the highest scores were Errors are detected and corrected independently during performance, Less guidance from the coach is required as familiarity with a skill increases and Different movements are combined more fluidly during training all with a mean of 4.53 this means athletes strongly agree that they are becoming more independent and smooth in their movements. The indicator with the lowest score was Skills are performed with improved accuracy and timing after repeated practice with a mean of 4.49 while still very high this score is slightly lower. This suggest that getting more accurate and well timed takes longer practice. The standard deviation of 0.50 shows that all athletes had similar experiences in the associative stage. The weighted mean of 4.52 is interpreted as Highly Skilled.

Table 12 shows the level of skill acquisition of student athletes in terms of the autonomous stage. It evaluate how athletes reach the point where skills are performed with little or no conscious oversight, allowing focus on higher level strategic thinking. The results show that student athletes strongly assert that they can perform sport specific skills automatically without much conscious thought. They indicate that their performance remain consistent even under pressure and that they can focus on strategy and decision making while doing their skills. The respondents express that they can adjust smoothly to changing situation without losing the quality performance and that their mastered skills feel simple during games or competition. The statements with the highest scores were Focus on strategy and decision-making is maintained while executing skills automatically and Mastered skills feel natural and effortless during games or competitions both with a mean of 4.54 this means athletes strongly agree that they can think about the game while their body does the skills automatically. The statement with the lowest score was Sport-specific skills are performed automatically without much conscious thought with a mean of 4.52 while still very high this score is slightly lower. This suggests that complete automatically doing skills without thinking at all is the hardest level to reach. The standard Deviation of 0.50 shows that all athletes had similar experiences in the autonomous stage. The weighted mean of 4.53 is interpreted as Highly Skilled.

TABLE XII. Level of skill acquisition of the student athletes in terms of Autonomous stage

STATEMENT	*MEAN*	*SD*	*REMARKS*
Sport-specific skills are performed automatically without much conscious thought.	4.52	0.50	Strongly Agree
Performance remains consistent even under pressure or fatigue.	4.53	0.50	Strongly Agree
Focus on strategy and decision-making is maintained while executing skills automatically.	4.54	0.50	Strongly Agree
Smooth adjustment to changing situations occurs without losing performance quality.	4.53	0.50	Strongly Agree
Mastered skills feel natural and effortless during games or competitions.	4.54	0.50	Strongly Agree
Weighted Mean	*4.53*		
SD	*0.50*		
Verbal Interpretation	***Highly Skilled***		

The Table 13 shows the significant relationship between core and functional training components and the learning competencies of student-athletes in terms of critical thinking, creative thinking, and communicating skills. The strongest relationship was between metabolic training and communicating with a score of .481 this means athletes who do more metabolic training tend to be better communicators. Another strong relationship was between flexibility and communicating at .435 this make sense because flexibility exercises often involve partners and talking. The weakest relationship was between core stabilization and creative thinking at .210 while still positive this link is weaker. This suggest that core stabilization which focuses on basic stability may not boost creative thinking as much as other training types. All the relationships shown in the table are statistically significant this means the connections between training and learning skills are real and not just by chance. Most of the links are weak to moderate meaning they are noticeable but not extremely strong. Functional training components like metabolic and plyometric training showed stronger links to learning skills than core training alone.

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TABLE XVI. Significant relationship between core and functional training to learning competencies of the student athlete

Core training		Learning Competencies		
		Critical Thinking	Creative Thinking	Communicating
Strength	Pearson Correlation	.381***	.290***	.302***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165
Agility	Pearson Correlation	.289***	.294***	.337***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165
Flexibility	Pearson Correlation	.259**	.249**	.435***
	Sig. (2-tailed)	0.001	0.001	<0.001
	N	165	165	165
Functional Training				
Core Stabilization	Pearson Correlation	.244**	.210**	.361***
	Sig. (2-tailed)	0.002	0.007	<0.001
	N	165	165	165
Metabolic	Pearson Correlation	.357***	.328***	.481***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165
Plyometric Exercises	Pearson Correlation	.316***	.315***	.380***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165

Table XVII. Significant relationship between core and functional training to skill acquisition of the student athlete

Core training		Skill Acquisition		
		Cognitive Stage	Associative Stage	Autonomous Stage
Strength	Pearson Correlation	.275***	.295***	.209**
	Sig. (2-tailed)	<0.001	<0.001	0.007
	N	165	165	165
Agility	Pearson Correlation	.250**	.295***	.189*
	Sig. (2-tailed)	0.001	<0.001	0.015
	N	165	165	165
Flexibility	Pearson Correlation	.337***	.351***	.256**
	Sig. (2-tailed)	<0.001	<0.001	0.001
	N	165	165	165
Functional Training				
Core Stabilization	Pearson Correlation	.403***	.378***	.320***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165
Metabolic	Pearson Correlation	.467***	.460***	.363***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165
Plyometric Exercises	Pearson Correlation	.409***	.404***	.326***
	Sig. (2-tailed)	<0.001	<0.001	<0.001
	N	165	165	165

The Table 14 shows the significant relationship between core and functional training components and the skill acquisition of student-athletes across the three stages of learning the cognitive, associative, and autonomous. The strongest relationship was between metabolic training and the cognitive stage at .467 this means athletes who do more metabolic training tend to be better at understanding new skills. Another strong link was between metabolic training also helps athletes refine their skills. The weakest relationship was between agility and the autonomous stage at .189 while still significant this link is weak. This suggests that agility training may not help skills become automatic as much as other training types. All the relationship shown in the table are statistically significant this means the connections between training and skill learning are real. Functional training components like metabolic, plyometric and core stabilization show stronger links to skill learning than core training alone. The links are strongest for the cognitive and associative stages and weaker for the autonomous stage

IV. Conclusion

"There is no significant relationship between core and functional training and learning competencies" is hereby rejected. And "There is no significant relationship between core and functional training and skill acquisition" is hereby accepted.

V. Recommendation

Based on the drawn conclusions resulted to the following recommendations were given: (1) School administrators may support funding for functional training facility and equipment and motivate the integration of cognitive development goals in to the athletic program. As a consistent method of student athletes' training, administrators might think about putting the suggested A Holistic Core and Functional Training Program for Athlete Development in to practice. (2) Coaches and trainers may design training programs that intentionally integrate cognitive challenges alongside physical demands, including problem-solving scenarios, decision making drills,

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and communication requirements into practice sessions. The three phases of skill acquisition should be systematically covered in training programs. (3) Parents may support their children by encouraging a balanced approach to sports and academics they may provide healthy nutrition, proper rest and supportive environment that values both physical and mental development. (4) Student athletes may maintain their high level of participation in core and functional training and become more creative strategic about the cognitive aspects of training actively thinking about movement patterns, problem solving during drills, and communicating effectively with teammates to maximize the transfer of physical training to learning competencies. (5) Future researchers may conduct similar studies involving a larger sample size and wide geographic scope to validate and expand more the findings. To provide more insights into the relationship between physical training and mental development experimental research designs and qualitative methods can be employed.

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