

Due to the ease with which negative defense points can be accumulated the efficiencies for defense are low. The composite efficiency, like last year's efficiency, is based on the net positive points and negative points that are earned during the entire game. The composite efficiency rating seems to parallel the game score more closely than some of the other items.

A close examination of the statistics of the game with Team D will lead one to wonder just how the Kansas team won the game. The story is told in goals made where the home team made two more than the opposition. The remaining statistics are largely in favor of Team D.

In the middle of the season there was some question about the number of violations. It seemed that the number of violations was too low and it was the opinion that our observers were missing a few violations. Without discussing the matter with the observers, a check was made during the game with Team F and both sets of observers had nine violations on the Kansas team charged against the same boys. We realize the data cannot be more accurate than our observers and this check on the violations indicate that our boys were noticing the game rather closely.

Table IV shows the player analysis for twelve players. A few more players were used in the home contests, but all had less than 20 minutes of playing time to their credit and were not included in the present table. The number (see Table IV) preceding the dash in the various columns represents the individual's rank in relation to the other members of the squad.

The scoring ability index as shown in column 2 is based upon goals and free throws made and is computed as shown in the first study under definition of terms. If two boys each made 25 goals, the one with the highest percentage of made shots will have the highest scoring ability index.

By changing the order of some of the data it is possible to make some player comparison between the two seasons' play on the same basis.

Player	1937-38 Season		1938-39 Season	
	Offensive efficiency	Ball handling error	Offensive efficiency	Ball handling error
A	90.5	4.6%	95.7	1.4%
B	96.4	1.7	97.9	.5
F	92.2	2.9	97.2	1.1
I	94.1	2.0	76.4	2.4
L	94.3	2.4	97.6	1.5

This rating shows that all the players, with the exception of Player I who did not finish the season, did make improvement.

The evaluation points per minute (see Table IV) earned during the playing season show how active the individual was, while the composite efficiency shows how well the individual performed his tasks.

The players of visiting teams were rated on the few items which are shown in Table V. The table is limited to players who played at least 15 minutes during the game. The table (V) divides itself naturally into three groups:

1. Above 90% playing efficiency
2. Between 80% and 90% playing efficiency
3. Below 80% playing efficiency.

The group above 90% consisted of 13 players; the two highest in this group were forwards. Three centers and eight guards composed the remainder of the list. The next group consisted of 22 players, four of whom were centers, seven were guards, and eleven were forwards. The group below 80% contained eleven players, three centers, four forwards and four guards.

It should be pointed out that out of the high eight players from the standpoint of playing efficiency, four of these players belong to School D, and that the players ranked one and two in evaluation points earned per minute also were from the same team. Also, it should be noted that two players of School D were ranked among those that were listed with zero ball handling errors.

On the basis of the data presented in Table V it would be interesting to select an all-opposition team.

Summary and Conclusion

Research of this type depends to a great extent upon the accuracy of the observers. Realizing this, the observers were very carefully selected from student majors and other interested students. The same observers were used in all the games and there is every reason to believe that the results are very nearly correct.

It is the opinion of the writers that this study has merit because:

1. It points out mistakes made during a game, thus causing the players to be more conscious of them.
2. It stresses the importance of game fundamentals.
3. It provides an itemized history of the contest.
4. It makes possible a more accurate means of comparing individuals and teams.

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TABLE I

ITEMS USED IN BASKETBALL EVALUTAION 1939 STUDY

OFFENSIVE

Weight in evaluation points

A. Positive items

1. Field goals	10
2. Free throws	5
3. Immediate assists	4
4. Secondary assists	3
5. Recovers ball off own backboard	2
6. Recovers teammate's jump ball	1
7. Recovers opponent's fumble	1
8. Good pass to a teammate	1
9. Catches teammate's pass	1

B. Negative items

1. Error of omission	1
2. Held ball forced by opponent	1
3. Fumbles ball and it goes out of bounds	2
4. Fumbles ball and it is obtained by opponent	2
5. Taps ball out of bounds	2
6. Wild pass out of bounds	3
7. Wild pass to an opponent	4
8. Violation of rules	5
9. Offensive personal foul	8

DEFENSIVE

A. Positive items

1. Blocking opponent's shot	4
2. Recovery from opponent's backboard	4
3. Intercepting opponent's dribble	3
4. Intercepting opponent's pass	2
5. Forcing held ball with opponent	2
6. Batting ball from opponent's hands and recovering	2
7. Batting ball from opponent's hands and not recovering	1
8. Cuts off opponent's pass, but not recovering	1

B. Negative items

1. Fouling opponent with ball	8
2. Fouling opponent without ball	8

TWELVE-FOOT BASKET FOR COLLEGE AND INDEPENDENT TEAMS

Of late years there has been a protest on the part of the basketball public against these "mezzanine peeping goons" of the cage sport who actually come to the level of the basket rim when they reach for tip-in shots, or actually dunk the ball into the hoop instead of shooting it upward, as originally intended by Dr. James Naismith, the originator of the game. No other sport puts such an outlandish premium on height as basketball.

The only reason that the height of the basket today is 10 feet from the gym floor is because the indoor running track at Springfield, Mass., College was 10 feet from the floor, and Dr. Naismith attached his basket to this running track.

Twelve-foot baskets would be only for college players who have reached their growth and maturity, and not for high school players. It is just as easy to accommodate the muscles of the eyes, wrists, hands and digits to distance in height as it is to accommodate them to distance on a horizontal plane.

It is proposed that a field goal count 3 points and a free throw from the 20-foot line (now 15 feet) count one point. This would equalize the scoring ratio. It has long been a contention of Dr. Naismith that a field goal should count more than twice as much as a free throw. An argument might be advanced that if the field goal is increased in value there would be a tendency to foul an opponent to keep the field goal from being made. The answer to that is that 4 personal fouls will disqualify a player from the game. And again, there will not be the desire to work the ball in under the goal for lay-ups on a 12-foot basket because the most disadvantageous spot under the new scheme is directly under the basket. It is much easier to bank a shot 8 and 10 feet out from the basket near the 12-foot goal than it is to work it under the goal. Research has shown that nearly 90% of all the fouls are made in close proximity to the basket. This is on account of the desire of the players to work the ball in close to the basket for a lay-up shot.

Many adherents to the elimination of the center jump rule contended that the no jump rule at center would drive the exceptionally tall player from the game. This certainly has not been true, nor should any rule be made that would be discriminatory. The higher basket would require all players to shoot for goals, whereby now only the "second story peeping Toms" can bat the ball away before it reaches the cylinder of the basket, thereby preventing the goal. Never in the history of the game have there been so many exceptionally tall men under very low baskets, comparatively speaking. Men 6'10" tall are getting to be quite commonplace. The presence of so many long fellows has reduced basketball to a freakish demonstration and has put an almost unbearable handicap on the finer athletes of a normal 6-foot height. Certainly no discrimination is asked against an exceptionally tall player. Rather uniformity is asked so that discrimination against the little fellow will be removed.

Practically all the rules that now exist against the single or double post play, against touching the ball while it is on the rim or above the cylinder of the basket, the 3-second rule, the 1-yard defensive rule, the player being awarded two free throws when fouled under or near the basket -- all of these rules will be unnecessary after a higher basket is put into effect.

The higher goal will increase spectator enjoyment, and will decrease injuries under the goal from accidents by players when driving in hard for lay-ins.

We have seen tall players in many team line-ups who were born without any special gift in basketball, but who were on the team solely on the accident of extreme height. Some junior high school coach discovered this altitudinous Brobdingnagian, sky-scraping stepper oozing ethereally down the hall and straightway the coach made for him with a pair of shorts, the stimulus being mainly his altitude and not his ability. Only a severe cardiac insufficiency will permit that basketball monstrosity to escape the coach's tentacles. Therefore, it is beyond reasonable doubt but what we can expect players of this 6'10" altitude to become so numerous that they will be the rule rather than the exception.

An eleven-foot basket would not be out of reach of the exceptionally tall players. A twelve-foot basket would forever guarantee non-interference of the basket rim by players. In addition to this, the twelve-foot basket would contribute markedly in clearing up the congestion under the goal by increasing the arc of disbursement of the rebound of the ball much further out on the court and away from the basket. All modern gymnasiums and auditoria have high ceiling clearances, but in schools that do not have high ceiling clearances ground rules could be permitted which would allow the use of the lower baskets until conditions could be corrected.

In 1934 Kansas State and Kansas played a home-and-home series using the elevated 12-foot basket. Neither team had practiced previously with the 12-foot goal, but the players seemed to have little difficulty in making goals and the spectators enjoyed the game very much. The players' only complaint was that they couldn't drive in and make their lay-up shots. On the other hand, they reacted quite favorably toward the elevated basket.

At the coaching school the following summer conducted by Allen of Kansas and E. J. Hickox of Springfield, Professor Hickox elevated the basket to 12 feet and the boys in the coaching school, without any practice whatsoever, played a match game. We asked Professor Hickox to write his impressions of that game. It seemed to be his opinion and that of the group who watched the game that the players had little difficulty in finding the range of the basket.

It seems to be a fair conclusion that certainly no one should criticize the elevated basket until he has at least tried it out. There are so many benefits and so few drawbacks that this experiment should be indulged in by more coaches than those who have tried it. It also seems reasonable that it might be fair to all concerned that if the 12-foot basket is found to be practical to advance the time of its possible adoption over a two year period so that none of the tall players now in college would be injured, but those oncoming players would have notice of it. This perhaps would remove an objection from coaches who might have tall men now.

The following are a number of reasons set forth in favor of the twelve-foot basket:

1. Arc of disbursement is greater, thus freeing congestion under basket.
2. Guards are forced further away from baskets to get rebound.
3. Forwards are forced further out from baskets to obtain rebound.
4. Will encourage more shooting account greater value of field goals.
5. Will definitely reduce foul shots because of no drive-in necessity.
6. Shots are easier made 8 or 10 feet out from basket instead of directly under.

7. Will eliminate the player's effort to draw two shots by being fouled.
8. The four foul disqualifying rule will still discourage too much fouling.
9. Will require all players to shoot upward for basket as originally intended by Dr. Naismith.
10. Present congestion of tall men under basket works a hardship on short men and makes the game rough.
11. Less handicap to a short man in shooting extra distance than by jumping extra distance.
12. Will discourage using a tall man who is not as active as a shorter man.
13. No other sport puts such an outlandish premium on height as does basketball.
14. A player accommodates muscles of eyes and hands to height the same as to distance.
15. The only reason the height of the present basket is 10 feet is because of the gymnasium running track at Springfield College.
16. A 12-foot basket is a blow to the zone defense account spreading defense.
17. A convex board with 12-foot basket is another impediment to the zone defense.
18. The speedier players could recover the ball before it goes out of bounds in the 4-foot zone, thereby reducing the number of out of bounds plays in a game.
19. Is a decided aid to officials - awarding 2 shots on fouls.
20. Will do away with single and double post plays.
21. Will do away with 3-second rule in the lane.
22. Will do away with rule regarding interference of ball on or above rim.
23. Will increase spectator enjoyment by high arch shots that hit.
24. Will increase visibility for spectators by raising basket 2 feet.
25. Will decrease number of accidents under goals, driving in, not so much hiping, nudging.
26. Will actually give more rebound playing space per player.
27. Four-foot zone behind basket another factor against zone defense.
28. Will make unnecessary all legislation around basket, such as 1-yard rule, etc.
29. Twelve-foot basket is coming, as sure as death and taxes.
30. An eleven-foot basket would still be within reach of 6'9" or 6'10" players.
31. Twelve-foot basket would forever guarantee non-interference.
32. In Olympic participation 12-foot basket would equalize height of two teams (desire of Olympic Committee); limited class 6'2" of under, unlimited class, any height.

TABLE II

AVERAGES OF THE KANSAS TEAM
1938-39 Study

	1938 Nine Game Averages	1939 Eight Game Ave.	17 Game Averages
Score	42.7	40.3	41.5
Goals attempted	61.5	72.8	66.8
Goals made	16.5	15.6	16.1
Free throws attempted	16	16.1	16.1
Free throws made	9.56	9	9.3
Personal fouls	10.2	12.1	11.1
Offensive personal fouls	.78	.88	.82
Violations	3.7	3.8	3.7
Rebounds from own backboard	21.3	15	18.3
Rebounds from opponent's backboard	22.3	27.4	24.7
Total passes and catches	706.3	728.6	716.8
Wild passes	7.57	3.5	5.6
Held balls obtained by opponent	3.1	3.3	3.2
Fumbles	6.1	2.9	5.2
Recovers jump ball	10.8	7.1	9.1
Offensive positive eval. points	1103	1055	1080.4
Offensive negative eval. points	73.2	48.4	61.5
Defensive positive eval. points	-	144	-
Defensive negative eval. points	-	97	-
Net eval. points per player per minute of play	5.14	5.3	5.2
Immediate assists	13	13.4	13.2
Secondary assists	11	11.3	11.1

TABLE III

TEAM SUMMARY

TEAM	SCORE	Goals Made	% of Goals Made	Free Throws Made	% of F. T. Made	Personal Fouls	Total Passes and Catches	No. of Errors in Ball Handling	% of Errors in Ball Handling	Recovery of Re-bounds	Violations	Efficiencies			Total Points
												OFFENSIVE %	DEFENSIVE %	Composite %	
Kansas	27	8	14.5	9	52.9	15	732	8	1.1	32	2	95.4	52.0	86.9	890
A	20	6	13.3	8	47.1	14	670	20	2.1	27	8	90.8	52.3	82.9	754
Kansas	39	16	23.8	7	50	14	793	6	0.8	47	5	96.4	55.4	89.2	1121
B	33	11	18.9	11	78.6	13	561	6	1.1	28	2	96.8	46.9	87.2	757
Kansas	33	10	16.7	13	72.2	14	583	8	1.4	43	7	93.4	61.7	86.1	846
C	29	10	18.5	9	52.9	16	518	16	3.0	33	1	94.4	45.3	83.3	689
Kansas	37	15	16.9	7	53.8	14	754	14	1.8	36	2	95.9	54.1	88.4	1048
D	32	13	20	6	42.9	12	596	10	1.6	39	0	95.0	61.7	88.1	835
Kansas	34	15	22.7	4	36.4	9	734	13	1.8	37	0	97.8	64.2	92.5	1061
E	27	10	20.4	7	33.6	11	608	8	1.3	38	5	95.4	59.1	88.2	828
Kansas	49	22	29.3	5	27.8	11	734	16	2.1	57	9	93.5	67.6	88.7	1141
F	46	19	28.4	8	53.3	15	421	7	1.6	37	2	94.8	49.5	85.	721
Kansas	46	16	21.3	14	63.6	14	788	4	0.5	48	4	94.6	65.8	89.9	1153
G	37	15	24.6	7	43.8	17	598	14	2.3	19	1	96.1	33.7	84.6	767
Kansas	59	23	24.7	13	81.2	13	711	8	1.1	39	1	97.6	56.6	91.2	1169
H	45	18	24	9	69.2	14	400	18	4.3	24	9	88.2	34.1	79.1	581
Kansas															
Totals	322	125	21.5	72	55.8	104	5829	77	1.3	339	30	95.6	59.8	89.2	8053
Opp.															
Totals	269	102	21.7	65	55.6	112	4372	99	2.2	245	28	93.9	48.5	84.8	5932

TABLE IV.

PLAYER ANALYSIS
(1938-39)

Playing Efficiencies

** Player	Position	* Min. Played	* Scoring Ability Index	* Points Scored	Points per Game	Games Played	* Ball Handling Error %	* OFFENSIVE %	* DEFENSIVE %	* Composite %	* Eval. Points per Minute
A	g	1-276	2-857	2-54	6.8	8	5-1.4	6-95.4	2-80.8	2-92.9	3-6
B	g	2-227	4-503	5-27	3.4	8	2-0.5	3-97.8	3-73.4	3-92.4	5-5.6
C	c	3-226.5	7-331	4-31	3.9	8	1-0.3	3-97.8	9-41.1	6-90.4	2-6.3
D	f	4-187.5	1-1383	1-73	9.1	8	7-1.8	9-93.4	4-73.	5-90.6	6-5.5
E	f	5-150	3-759	3-47	7.8	6	9-1.9	8-94.3	10-37.2	9-83.4	9-4.5
F	f	6-140.5	6-386	6-26	3.3	8	4-1.1	3-97.8	8-54.1	4-90.9	7 $\frac{1}{2}$ -4.9
G	g	7-105	8-268	9-15	2.5	6	11-2.9	7-94.6	5-67.3	8-88.5	7 $\frac{1}{2}$ -4.9
H	c,f	8-91.5	5-426	7-20	2.9	7	3-0.9	1-99.0	1-82.4	1-96.4	4-5.9
I	f	9-67.5	9-207	8-17	4.3	4	9-2.4	10-90.8	11-29.2	10-74.6	10-3.1
J	g	10-48.5	10-81	10-6	1.5	4	10-2.6	11-89.6	12-26.2	11-74.1	11-2.6
K	f	11-33.5	12-7	11-2	.4	5	12-9.2	12-79.4	6-57.9	12-73.6	12-2
L	c	12-21.5	11-25	12-2	.5	4	6-1.5	5-97.5	7-55.6	7-89.7	1-7.1

Position - guard, forward, center

* Indicates player rank in squad.

**This includes the players who had a playing time of more than 20 minutes on the home court.

TABLE V

			Playing Efficiency of Opponents			
Player	Position	School	Composite	Ball Handling	Minutes	Eval. Points
			Efficiency	* Error	* Played	* per Minute
A	f	D	100	5 - 0.0	44 - 16.5	30 - 3.1
A	f	E	100	5 - 0.0	29 - 27	10 - 5
A	g	B	94.4	12 - 0.7	21.5 - 33	8 - 5.3
A	c	G	94.2	22 - 1.5	16 - 35.5	12 - 4.8
B	c	D	94	39.5 - 4.3	46 - 15	31 - 3
C	g	D	93.7	5 - 0.0	45 - 15.5	1 - 7.1
A	g	F	93.4	16 - 1.0	6 - 40	18 - 4
D	g	D	93.1	10.5 - 0.5	6 - 40	2 - 6.9
A	g	A	92.1	43 - 5.4	38 - 21.5	11 - 4.9
B	g	B	91.2	13.5 - 0.8	6 - 40	18 - 4
B	g	F	90.9	13.5 - 0.8	6 - 40	3 - 6
B	g	G	90.9	10.5 - 0.5	6 - 40	5 - 5.7
B	c	E	90.1	5 - 0.0	6 - 40	15.5 - 4.1
B	g	A	89.8	31 - 2.7	39 - 20	21 - 3.9
A	c	H	89.2	41.5 - 5.0	30.5 - 26	39.5 - 2.5
C	f	E	89	5 - 0.0	40 - 19.5	34 - 2.9
E	f	D	88.9	27.5 - 2.1	19.5 - 33.5	26.5 - 3.6
C	f	G	88.8	36.5 - 3.5	6 - 40	21 - 3.9
D	g	E	88.3	29.5 - 2.3	36 - 23.5	6.5 - 5.5
C	f	B	88	16 - 1.0	13.5 - 38	14 - 4.2
A	f	C	87.6	25 - 1.9	21.5 - 33	44 - 2
C	f	F	87.3	19 - 1.2	6 - 40	23.5 - 3.8
B	f	C	86.4	26 - 2.0	6 - 40	18 - 4
D	c	B	85.7	35 - 3.4	6 - 40	34 - 2.9
F	c	D	85.1	45 - 6.9	32 - 25	15.5 - 4.1
C	c	C	84.7	44 - 6.2	27.5 - 27.5	4 - 5.9
E	f	E	83.9	5 - 0.0	19.5 - 33.5	23.5 - 3.8
B	g	H	83.6	16 - 1.0	12 - 39	21 - 3.9
E	g	B	83.1	5 - 0.0	26 - 28	34 - 2.9
G	f	D	83.1	41.5 - 5.0	36 - 23.5	45.5 - 1.9
C	f	A	81.6	39.5 - 4.3	15 - 36.5	43 - 2.2
D	g	C	81.5	24 - 1.7	6 - 40	34 - 2.9
C	f	H	80.9	38 - 4.2	17 - 35	9 - 5.1
F	g	E	80.8	29.5 - 2.3	36 - 23.5	6.5 - 5.5
E	g	C	80.5	5 - 0.0	25 - 28.5	28 - 3.5
C	c	H	79.8	46 - 7.1	32 - 25	42 - 2.3
F	g	B	79.3	22 - 1.5	41 - 19	25 - 3.7
D	c	F	79.2	32 - 2.9	23 - 32.5	38 - 2.6
D	f	G	78.9	27.5 - 2.1	27.5 - 27.5	45.5 - 1.9
E	f	H	77.7	33.5 - 3.0	13.5 - 38	41 - 2.4
D	f	A	77.6	22 - 1.5	18 - 34.5	39.5 - 2.5
E	f	F	77.5	5 - 0.0	24 - 31	34 - 2.9
H	g	D	76	18 - 1.1	34 - 24.5	29 - 3.2
E	c	A	74.2	36.5 - 3.5	30.5 - 26	13 - 4.3
E	g	G	73.6	20 - 1.4	43 - 17	26.5 - 3.6
F	g	G	70.2	33.5 - 3.0	42 - 18.5	37 - 2.7

Positions - forward, guard, center.

*Indicates rank of player.